

EXPLORING ARCHITECTURAL IMPLICATIONS ON SOCIAL
SUSTAINABILITY: THE CASE OF EXTENDED FAMILY DWELLINGS IN
CONTEMPORARY BAHRAINI HOUSEHOLDS.

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Abstract

Traditionally in Bahrain, a family is fiscally responsible for their children until adulthood, including the provision of housing. In the 1960s, in response to the fleeting economic prosperity of the era of oil exportation, households in the Arabian Gulf region moved from the traditional courtyard extended family house to the modern lavish single family villa. But subsequently, the global economic downturn in 2008 forced a gradual end to oil dependency, causing political unrest, social injustice, widening fiscal deficits, and high youth unemployment, as well as a detrimental impact on living standards, particularly housing, for a majority of the Gulf region residents. The constantly shifting and transforming social and political climate created significant pressures on the welfare mechanism, which then placed citizens on twenty-years-long waiting lists for social housing services.¹ To alleviate the burden, many families opted to provide housing for their adult children to accommodate their new families, by adapting and expanding their existing dwelling. The house expansion process varies from simply dividing the space to more complex measures of creating a semi-independent apartment, or by building an additional floor with its separate entrance.

The objectives of this research is 1) to study and document patterns of design interventions in contemporary extended family houses to adapt with family growth; secondly, 2) to inform architects and policy makers on family needs and accommodate them through an improved design process and optimum use of resources; and 3) to

¹ Angus Freeman, "Housing Affordability – A Key to Social Cohesion in the Arabian Gulf" in *Housing Markets and Policy Design in the Gulf Region*, (Cambridge: Gulf Research Centre Cambridge, 2014), 21-24.

evaluate the sustainability of the contemporary extended family housing through understanding the intertwined economic, social and environmental motivations that led to it. Young married family members were interviewed to understand their motivations and experiences, and floor plan analysis was undertaken to study architectural implications and patterns. The research combines interviews and plan analysis to examine the sustainability of the remodeled housing in support of transitioning extended families.

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List of Abbreviations

MOH	Ministry of Housing
GCC	Gulf Cooperation Council
EDB	Economic Development Board
SDG	Sustainable Development Goals
MDG	Millennium Development Goals
UN	United Nations
RHA	Row Housing type A

1. Introduction

In the socio-cultural context of Bahrain, the house and neighborhood have a profound social dimension and are considered the fundamental building block that maintains society's identity.² Architectural and urban historians have studied the cultural and climatic elements of traditional housing in the Gulf, and how these elements have sustained the social vitality in the community, such that it produced a cohesive character to the urban form.³ Because of globalization, many families now reside in small contemporary style houses rather than the traditional larger residences that can accommodate several generations in one dwelling. This move changed the structure and lifestyle of families⁴, casting a shadow over the social vitality that was once a predominant urban feature. However, the unstable economy of recent years introduced another wave of architectural change in the housing sector, transforming the smaller single-family houses into multi-family ones.

The study aims to explore the social and architectural implications of house extensions in Bahrain. These extensions are represented as an apartment addition to the detached single-family house model in Bahrain, which transforms the latter to a contemporary version of the extended family house. At the beginning of this study, the question asked was: Is the house extension model

² Nelida Fuccaro, "Understanding the urban history of Bahrain." *Critique: Critical Middle Eastern Studies*, vol. 9, no. 17 (2000): 67, doi:10.1080/10669920008720168.

³ Ronald Hawker, *Traditional architecture of the Arabian Gulf: Building on desert tides* (Southampton: WIT Press, 2008), 44-48.

⁴ Yahya El-Haddad, "Major Trends Affecting Families in the Gulf Countries," in *Major trends affecting families: a background document* (New York: United Nations, 2003), 239.

a sustainable design solution for the housing shortage in Bahrain, given the overall decline in the welfare mechanism and housing provisions? Specifically:

- a. What are the patterns of design interventions in the contemporary extended family houses that allow adaptation to family growth?
- b. What are the family needs that are accommodated by the modifications?
- c. Is this type of housing modification sustainable in terms of wise use of resources?

To answer this question, qualitative methods, such as interviews are selected as suitable for exploring social dimensions of the topic, with analysis of plans to study the spatial dimensions. Additionally, the typological analysis compelled the cultural context overview, as the change of family structure and lifestyle was accompanied with a change or a mutation in type, which indicates a pattern of simultaneous transformation in family structure, type and the general socio-political climate of the country. These frame the design decisions that may seem, from an emic perspective in a family-oriented collective society, to be only driven by cultural norms and practices. But it is apparent that the construction of such apartments, typically an immediate solution with no prior spatial and financial provision, is being allowed by the government however reluctantly.

1.1. Background

The Gulf Cooperation Council (GCC), comprised of 6 countries that stretch on the Arabian Gulf (Figure 1): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, is one of the fastest growing urbanized regions in the world. Driven by their oil economy in the 20th century, GCC countries have undergone transformational societal and economic changes, signaling a transition from traditional societies to cities that have occupied a central stage in global development.⁵

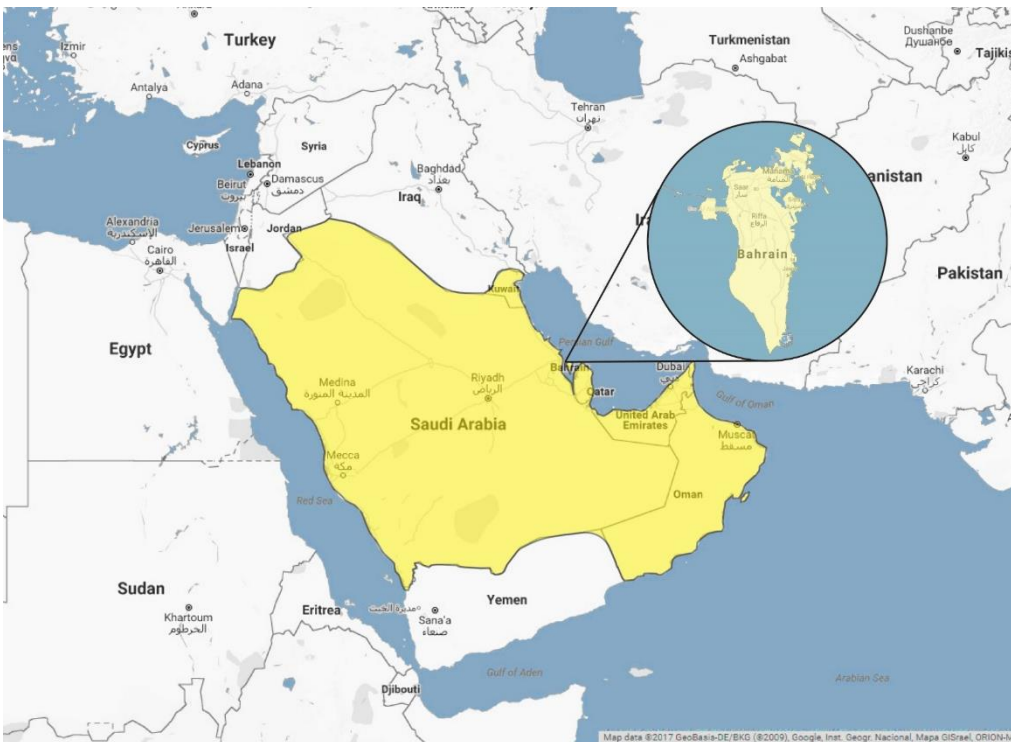


Figure 1: Map of GCC and Bahrain

Source: Google maps, Google inc, 2017.

⁵ Elnazir Ramadan, “Sustainable Urbanization in the Arabian Gulf Region: Problems and Challenges,” *Arts and Social Sciences Journal* 6, no. 2 (July 2015): 109, doi: 10.4172/2151-6200.1000109.

Since then, the rise and fall of the oil economy in the Gulf region, notably Bahrain, generated radical changes in the urban form and housing typology. Before oil discovery in 1932, Bahrain's urban structure was shaped by the abundance of water and richness of fisheries that sustained the farming, fishing, and pearl trading economy.⁶ The discovery of oil was the beginning of the urbanization and deep integration of society in the international world.⁷ With the accumulation of wealth and exploding population leading to a residential burden, the government followed a linear distributive welfare policy in the main cities of Manama and Muharraq. Accordingly, the ministry of housing (MOH) built two housing towns: Isa Town in 1968 and Hamad Town in 1984, which offered heavily subsidized housing units to citizens, in addition to other housing products.⁸

While the fleeting economic prosperity provided the past generation with the widely sought after opportunity of having spacious houses, designed for the nuclear rather than extended family, the economic downturn in 2008 forced the country to end oil dependency, diversify the economy, and reevaluate their housing policies.⁹ As an island city-state with limited land and a 1.4 million population, capacity reached its limits and options for growth were either horizontally on

⁶ Nelida Fuccaro, *Histories of city and state in the Persian Gulf Manama since 1800* (Cambridge: Cambridge University Press, 2012), 16.

⁷ Ibid.

⁸ Mustapha Ben Hamouche, "The changing morphology of the gulf cities in the age of globalisation: the case of Bahrain," *Habitat International* 28, no. 4 (2004): 528, doi:10.1016/j.habitatint.2003.10.006.

⁹ Ben Hamouche, The changing morphology of the gulf cities in the age of globalisation: the case of Bahrain, 528.

sea-reclaimed land, or vertically with high-rise buildings.¹⁰ Meanwhile, the majority of middle and low-income families in Bahrain suffer from the impacts of low oil prices, political unrest, social injustice, widening fiscal deficits, and high youth unemployment. As a result, the extended family house made a comeback, as many families provided housing for their adult children by adapting and expanding their existing dwelling.

The same period witnessed the transition to the contemporary standardized house model, which caused a societal shift. Families moved from the traditional courtyard houses that epitomized the collective culture; to westernized single-family dwellings that promoted a high level of individuality.¹¹ The 1970s witnessed the birth of municipal building codes and physical planning zoning laws that regulated the building process.¹² As MOH distributed subsidies plots, middle-income families started building residential villas that suited their needs of the moment, with the perception that their children will have the same housing benefits in the future.¹³

1.2. Social Sustainability and the Built Environment

Sustainability is known to encompass three pillars: environmental, social, and economical; however, the discourse around it has emerged from an essentializing ecological standpoint. The term ‘social sustainability’ is undertheorized and lacks concise definition in literature. A

¹⁰ Gareth Doherty, *Paradoxes of green: landscapes of a city-state* (Oakland: University of California Press, 2017), 10-11.

¹¹ El-Haddad, Major Trends Affecting Families in the Gulf Countries, 239.

¹² Adel M. Remali, Ashraf M. Salama , Florian Wiedmann and Hatem G. Ibrahim, "A chronological exploration of the evolution of housing typologies in Gulf cities," *City, Territory and Architecture* 3, no. 14 (2016): 5 , doi: 10.1186/s40410-016-0043-z.

¹³ Curtis E. Larsen, *Life and land use on the Bahrain islands: the geoarchaeology of an ancient society* (Chicago: University of Chicago Press, 1984), 13.

prominent attempt in the social sciences literature is presented by Ignacy Sachs¹⁴, who argued that there are two possible definitions to expand the theoretical understanding of social sustainability. According to him, social sustainability is either a need to sustain particular structures and relations in societies and communities, or it is considered a precondition for sustainable development.¹⁵ Through its evolution, the term has been used in policy and urban form frameworks¹⁶ to work on micro and macro levels of human well-being. Micro levels consist of intangible aspects like equity, quality of life, preserving social values and culture, sense of place, inclusion and participation, and security. Macro levels, on the other hand, consist of tangible aspects such as physical well-being, adequate housing, and basic needs of humans, access to services and goods.¹⁷

1.2.1. Role of Housing

Amos Rapport offers a compelling definition of housing, one that explains why housing should be studied along with culture. To him, housing is conceptualized as a system of settings where activities take place, and is described through terms of environmental quality profile that is

¹⁴ Aso Haji Rasouli and Dr. Anoma Kumarasuriyar, "The Social Dimention of Sustainability: Towards Some Definitions and Analysis," *Journal of Social Science for Policy Implications* 4, no. 2 (2016): 28-29, doi:10.15640/jsspi.v4n2a3.

¹⁵ In this paper, the term 'sustainable development' is understood as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs," which emphasizes the common responsibility of sustainability that is delivered in differentiated action through two essentialities: addressing fundamental needs of developing countries, and planned-responsible use of resources. GH Brundtland, Report of the World Commission on Environment and Development: Our Common Future. (Oxford: Oxford University Press, 1987), 15.

¹⁶ These frameworks are differentiated from the eleventh goal of the SDGs agenda, which targets cities and human settlements, becoming the focus of practitioners in the field of urban planning, architecture and design. "Cities - United Nations Sustainable Development Action 2015," United Nations, accessed December 1, 2017, <http://www.un.org/sustainabledevelopment/cities/>; and "Sustainable development goals," United Nations, accessed December 1, 2017, <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>.

¹⁷ Ibid, 31-32.

specific to every culture.¹⁸ Thus, housing is seen as a sector of a profound social dimension, and is considered as the fundamental building block in cultural identities of societies. As such, houses have two roles: a) house is structural, providing the basic need of shelter; b) house is institutional, created for a complex set of purposes. The form, organization, and programming of the house are responsive to its context, because building a home is a cultural phenomenon.¹⁹ While climate and culture inform strategies used to articulate the domestic space, it is the visual architectural attributes, externally and internally, that act as markers of social, cultural and economic realities. Hence, functional architectural attributes reflect the economic status of communities on the macro level.²⁰ The institutional role of the house positions the individual in a given society or culture. Through the discipline of family, the household guides the members to their roles within the family, and in the community.²¹ The sustained communication of the built form within the social structure of the family builds a strong sense of belonging and optimized quality of life that is meaningful and rewarding, which is the essence of social sustainability. In parallel, home is the basic unit in the built environment and urban form that represents fundamental significance to society's growth. It is a tool of expression that defines and maintains society's cultural identity, shared values, and collective memories. Furthermore, through understanding the relationships of the structural and institutional qualities of houses, one can see a particular image of the neighborhood that indicates the health of that community.

¹⁸ Amos Rapoport, foreword to *Housing, culture and design: a comparative perspective*. (Philadelphia: Univ. of Pennsylvania Pr., 1989), xiii.

¹⁹ Amos Rapoport, *House Form and Culture* (Englewood Cliffs: Printice-Hall Inc, 1969), 46–49.

²⁰ Vernacular architecture in ancient civilizations and indigenous communities demonstrate a good example of functional architectural attributes, as it tells the story of the people through the design strategies and techniques used in response to climate and cultural factors. *Ibid*, 37.

²¹ *Ibid*, 46–49.

Household and neighborhood density can be paradoxical in sustainable development.²² On the one hand, living in smaller spaces and denser neighborhoods retains a positive impact for the ecology of the built environment. On the other hand smaller houses built on smaller plots, means room for future growth, consuming fewer materials and energy, saving more money, and producing less waste and carbon emissions.²³ Additionally, density in the household, if not planned well, can compromise the elements that shape one's adulthood: autonomy, independence, and privacy.²⁴

1.2.2. Relevance of the Sustainability Discourse to the Study

The previous rudimentary framework of social sustainability in section 1.2, along with the conceptualization of housing in section 1.2.1, allow for the linkage of the concept of social sustainability to the fields of design, and an understanding of the role of architecture and planning as one that relates to the preservation or erasure of communities and cultures. In their recent publication "designing for social sustainability," Future Communities²⁵ present a guidebook on theories and design principles to produce thriving responsible community-based architecture. The design guide highlights four building blocks of social sustainability: space to grow, voices of influence, social and cultural life, and amenities and social infrastructure.²⁶ Of particular interest

²² Rebecca Lai Har Chiu, "Social sustainability, sustainable development and housing development: the experience of Hong Kong" in *Housing and social change: East-West perspectives* (London, New York: Routledge, 2003), 222- 224.

²³ Ibid.

²⁴ Glen Bramley and Sinéad Power, "Urban form and social sustainability: the role of density and housing type," *Environment and Planning B: Planning and Design* 36, no. 1 (2009): 33, doi:10.1068/b33129.

²⁵ A UK based a partnership program established in by the Young Foundation to explore practical ways in which new housing settlements can succeed as communities where people want to live and work.

²⁶ Future Communities, *Design for Social Sustainability* (Erith: Young Foundation, 2011), 20-42, 2011, accessed December 1, 2017, http://www.futurecommunities.net/files/images/Design_for_Social_Sustainability_0.pdf.

to this project is the first building block ‘spaces to grow’ that highlights the importance of flexible urban planning, fair housing provision, and flexible housing designs, in order to accommodate the changing needs of individuals and families dwelling in them. The understanding of these concepts provides a foundation for the discussion of findings in the last section of this paper.

1.3. Cultural Context

The Kingdom of Bahrain is a city-state archipelago, consisting of 40 natural and human-made islands, with an overall area of 767.26 square kilometers in 2015.²⁷ The concentrated amount of area increase is in the northern part of the largest island in the Kingdom, where the capital Manama is located. It is predominantly a semi-arid region, characterized by hot-humid climate zone. The country is flat, at an elevation of 150-200 feet above sea level, with the highest peak rising to 439 feet above sea level.²⁸ The population is concentrated in the northern part of the main island, where arable land and extensively cultivated palm groves existed. Bahrain’s population doubled in the last decade, reaching 1.4 million in the recent census.²⁹ Freeman used the term “phenomenal” when discussing the demographic growth in Bahrain, as it affected natural resources and the state’s welfare system, specifically in the housing sector, through the bulging demand for housing.³⁰ Until recently, Bahrain’s economy was dependent on the oil industry, the primary driver responsible for the urbanization process, societal shift, and the overall integration in the international world. In 2008, the Economic Development Board (EDB) launched the plan of

²⁷ According to the latest updated data from the Central Informatics Organization (CIO) in Bahrain.

²⁸ Larsen, *Life and land use on the Bahrain islands: the geoarchaeology of an ancient*, 6-12.

²⁹ "Total Population of Bahrain," The World Bank Data, accessed November 10, 2017, <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=BH&view=chart>.

³⁰ Freeman, *Housing Affordability – A Key to Social Cohesion in the Arabian Gulf*, 21-24.

diversifying the economy, branded as “the economic vision 2030”.³¹ In an effort to (re)shape the vision of the government, society, and the economy, the economic vision 2030 is based on three guiding principles: sustainability, fairness, and competitiveness. A recent press release by the EDB announced that the private sector witnessed growth with an annual pace of 4.7% in the first half of 2017.³²

1.3.1. Society and Urbanism

The Bahraini society is in a fluid transition from tradition to modernity, as exemplified in the urban life and architecture in both eras. Traditional architecture in the region was profoundly shaped by climate and culture, and expressed urbanely through design, form, building techniques, and material selection. In response to the hot and humid climate, traditional settlements were close to the sea.³³ The general layout was characterized by dense neighborhood clusters, with meandering alleyways and wind towers oriented to capture the cool breeze. Houses were a mixture of solutions for climate and culture. They followed the inward-looking courtyard layout, where Islamic principles of privacy, modesty, and hospitality were translated into the organization of space.³⁴

³¹ Doherty, *Paradoxes of green: landscapes of a city-state*, 85.

³² "Bahrain's non-oil sector expands 4.7% in the first half of 2017," The Economic Development Board of Bahrain, November 20, 2017, accessed November 22, 2017, <http://bahrainedb.com/latest-news/bahrains-non-oil-sector-expands-4-7-first-half-2017/>.

³³ In his paper on Gulf cities morphology, Hamouche mentions that as an early settlement pattern, the sea proximity was mainly driven by the as many people depended on it for living. Ben Hamouche, The changing morphology of the gulf cities in the age of globalisation: the case of Bahrain, 524.

³⁴ Zulkeplee Othman, Rosemary Aird, and Laurie Buys, "Privacy, modesty, hospitality, and the design of Muslim homes: A literature review," *Frontiers of Architectural Research* 4, no. 1 (2015): 16, doi:10.1016/j.foar.2014.12.001.

Close-knit neighborhoods of courtyard houses were able to achieve high levels of privacy and social interaction simultaneously as this model provides close connection to neighbors, building a strong sense of community. Islam, represented in Quran (Allah's revelations to prophet Mohamed) and Hadith (Prophet's sayings and teachings), nurture these relationships through emphasizing the sense of responsibility and special relationships between family and relatives³⁵ and between neighbors that extend to at least seven houses on either side.³⁶ On the matter of finding a place to live, the Arabic proverb "choose your neighbor before your house", that guided how people chose to settle and formed societies in the region.

Local and global cultural exchanges, driven by urbanization and modernization of state, created new family dynamics while keeping core values derived from religion and culture. In the early 1930s, rural migration to the capital from villages was prevalent since the establishment of *baladiya*, an Arabic term for the first municipal administration that was the nucleus of the local government³⁷, and later the first oil company. Many family heads left their jobs as farmers, fishermen and craftsmen to join the civil work force as clerks and later as oil workers.³⁸ The rural-urban migration was a main catalyst in changing the type and nature of urban life in Bahrain, starting at the family level. Thus, the processes of urbanization and modernization were a direct exploitation of the oil wealth.³⁹ The government sought to connect regions through introducing

³⁵ These special relationships are termed in Arabic *Silat ar-rahm*, which literally means to join the womb, and practically means maintaining family unity through constant communication with kin.

³⁶ Peter G. Rowe, "Dual Aspects of Tradition in Saudi Arabian Urban Housing Development", in *Housing, culture and design: a comparative perspective* (Philadelphia: Univ. of Pennsylvania Pr., 1989), 308.

³⁷ Fuccaro, *Histories of city and state in the Persian Gulf Manama since 1800*, 112-113.

³⁸ Doherty, *Paradoxes of green: landscapes of a city-state*, 85.

³⁹ Ben Hamouche, *The changing morphology of the gulf cities in the age of globalisation: the case of Bahrain*, 528.

public buses, which attracted locals from villages and towns across the country to the public sphere.⁴⁰ Here the cultural exchange initially took place between local residents, and gradually with the westerners, mainly British and Americans, in the oil industry community. The public sphere, embodied in the modern city, was the new reality, as more people moved for better opportunities. Reciprocally, and due to the small area of the country, the city extended to the villages and gradually claimed the once isolated communities⁴¹, achieving the state's vision of full integration towards progress and development. The integration of the city and the village succeeded in eliminating some vivid differences in culture and social conduct, creating a society of commonalities, exposed to external influences from the culture of the west.⁴² This local and global cultural exchange during the oil boom was not new, as Bahrain was once a central trading station between India and Europe under the British reign, in addition to what its location allowed of fluid movement with neighboring countries of people, commodities and ideas. For example, the wind tower, a prominent architectural feature in the traditional Arabian Gulf house, is also found in Iran, Pakistan and Afghanistan. The western influence on society was another wave of cultural exchange between Bahrain and the world.⁴³ Thus, the contemporary nuclear Bahraini family shares many features of a western one, as families seek more independence and autonomy, which was reflected in the architecture built after. The architecture of these family dwellings were adaptive to new characteristics of the contemporary Bahraini family, and the limitations of the

⁴⁰ Nader Kadhim, "Tabai' al estemlak: qera'a fe amrad al hala al bahrainya" [Natures of Possessiveness: A study in the pathology of the Bahraini condition], (Beirut: Arab Institute For Research & Publishing, 2007), 133-136.

⁴¹ Due to their self-sufficiency through farming and fishing and small scale trade.

⁴² Nader Kadhim, *Natures of Possessiveness*, 133-136.

⁴³ Farry Kazerooni, *Persian Gulf Islamic architecture* (Tehran: Rahnama Press, 2009), 189-197.

new post-oil economy, where boundaries of privacy and independence were redrawn according to available resource.⁴⁴

1.3.2. Typology Evolution

The built environment in the Gulf evolved, just like its culture, in response to religious and socio-cultural factors, which influenced spatial arrangement design decisions. The religious beliefs make the set of Islamic rules guidelines for every aspect of life, while the socio-cultural community-based customary rules are localized and versatile on a regional level.⁴⁵

1.3.2.1. Chronological order

In a recent study on the evolution of housing typologies in Gulf cities, researchers defined four categories based on distinctive historic periods that shaped the local housing features. These periods are: post nomadic, traditional, modern, and contemporary.⁴⁶ (Figure 2)

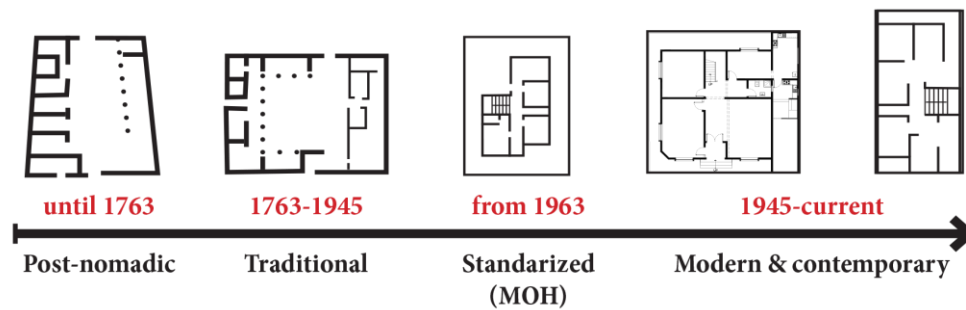


Figure 2: Typology evolution in Bahrain

⁴⁴ Explained further in section 1.3.3, page 19.

⁴⁵ Besim S. Hakim, "Generative processes for revitalizing historic towns or heritage districts," *URBAN DESIGN International* 12, no. 2-3 (2007): 158, doi:10.1057/palgrave.udi.9000194.)

⁴⁶ Remali, Salama, Wiedmann and Ibrahim, A chronological exploration of the evolution of housing typologies in Gulf cities, 3-7.

Source: redeveloped by author after Saraiva, Serra and Furtado , *Continuity and Rupture: traditional and subsidized housing in Bahrain*, 2017. And Remali, Salama , Wiedmann and Ibrahim, *A chronological exploration of the evolution of housing typologies in Gulf cities*, 2016.

Although mostly true for most Gulf cities, the post-nomadic houses that were built until late 18th century were not all tribal influenced structures following a top-down organization of space and land. The island nature of Bahrain gave this typology a different set of features, as most settlements were near to farm lands and the sea. The proximity to these natural settings resulted in using coral stone, palm trunks and mud in houses, in addition to another form of cheaper houses for the working class made of palm fronds called *barasti*. While the first type was a sign of wealth political influence, especially among pearl entrepreneurs and the royal family, the *barasti* were a sign of the poverty and subjugation.⁴⁷

In the early 19th century, the traditional architecture characterized the era of British residency and the rise of the pearling industry in Bahrain and other Gulf states.⁴⁸ In response to the active trade between Bahrain and India, coupled with the commercialization of lands, *barasti* huts started to be replaced by the courtyard houses built with new materials coming from other countries. The courtyard houses were made with masonry structures of coral stones, coral mud, clay, and new materials were introduced including limestone, gypsum, wooden beams from east Africa and carved wooden doors and windows from India.⁴⁹

⁴⁷ Fuccaro, *Histories of city and state in the Persian Gulf Manama since 1800*, 33-35.

⁴⁸ Saliha. El-Arifi, "The nature of urbanization in the gulf countries," *Geojournal* 13, no. 3 (1986): 224-227, doi:10.1007/bf00190508.

⁴⁹ Hawker, *Traditional architecture of the Arabian Gulf: Building on desert*, 44-48.

The modern typology kicked off in the mid-20th century simultaneously with the discovery of oil.⁵⁰ A lot of things shaped the urban scape in this era, including building roads, establishing airports and oil workers settlements.⁵¹ With the introduction of the welfare mechanisms after wealth accumulation, many people left their houses in Manama and Muharraq to newly constructed housing towns.⁵² While some sources mention that the housing design in that era was influenced by more developed Arab countries in that time like Egypt and Iraq, other sources consider the influence is western due to the western planning of bigger projects. Another major modifier to the housing form in the modern period is the introduction of governmental building regulations and zoning codes, which replaced the community-based and socio-economically associated design features of previous periods.⁵³

The last period that started from the late 20th century until this day, is the contemporary period. The first 20 years of this period witnessed a thriving housing market that had two distinctive housing options, both subsidized by the ministry of housing in different means: the social housing projects and the private single family villa.⁵⁴

⁵⁰ Remali, Salama , Wiedmann and Ibrahim, A chronological exploration of the evolution of housing typologies in Gulf cities, 5.

⁵¹ Ibid.

⁵² Hamouche, *The changing morphology of the gulf cities in the age of globalisation: the case of Bahrain*, 520-526.

⁵³ Ibid.

⁵⁴ Susana Soares Saraiva, Miguel Serra and Concalo Furtado, “Continuity and Rupture: traditional and subsidized housing in Bahrain”, in *Proceedings of the 11th Space Syntax Symposium* (Lisbon: Instituto Superior Técnico, Departamento de Engenharia Civil, Arquitetura e Georrecurso, 2017), 25.10-25.11.

1.3.2.2. Housing policy overview

With the decline of the oil industry, the Gulf States governments rushed to diversify the economy, which had significant implications on the housing market.⁵⁵

Since 1968, the government⁵⁶ was the leading provider of affordable housing to alleviate the overcrowding in Manama and Muharraq. Citizens were drawn to move to Isa Town (established 1963) and Hamad Town (established 1984) for the comfort of modern life that they provided.⁵⁷ After developing variations of the social housing unit within the span of 23 years (from 1976 to 1993) (Figure 3 and Figure 4), the ministry started a new housing scheme in 2010 to provide more than 50,000 housing units in partnership with private sector developers.⁵⁸ Before 2010, developers were considered part of the commercial market and were seen as clients to the governmental institutions that regulate the housing market. However, with the increased shortage of houses, the government started a new language of partnership, seeing them as providers that enable the housing sector to meet its needs. Therefore, they were allowed more participation in the field before issuing new housing regulations and amendments. This marks a new era in the housing development in Bahrain, where they actively take part in the decision-making process,

⁵⁵ Ibid.

⁵⁶ The housing regulator at that time was the Manama municipality; the ministry of housing was established in 1975. Ministry of Housing - History, accessed November 23, 2017, <http://www.housing.gov.bh/en/Projects/Pages/default.aspx>.

⁵⁷ Ibid, Projects.

⁵⁸ Saraiva, Serra and Furtado , Continuity and Rupture: traditional and subsidized housing in Bahrain, 25.10-25.11.

along with the physical planning directorate, the municipality center, Bahrain society of engineers,⁵⁹ consultants and investment developers.

⁵⁹ Often represented as a committee.



Figure 3: Social houses in Qal'aa area built in 1975 by MOH



Figure 4: Social houses in Qal'aa area built in 2015 by MOH

Source: Images courtesy of Jaffar Al Haddad

Outside of the partnership with the ministry of housing, developers started investing in small houses⁶⁰ and spacious apartment buildings for expats and locals, with a focus on the amenities and parking.

On the other hand, for the majority of the local middle-class population the preference was the villa, for it was made affordable to build a detached villa in newly planned suburban areas, through government housing loans for buying and building lands. Single-family villas featured large open halls, central staircases, front and back yard, outdoor kitchen and a garage for two cars. There was no particular style for the façade, but there were a lot of projections and recesses that played with the form and in recent years the minimalistic, clean white facades were in style and demand by clients.

1.3.3. Family and Household

1.3.3.1. The expanded family model

The extended family is the basic family unit in many areas of the eastern hemisphere, such as the Middle East, Asia, Africa and some regions of Europe. It tends to develop when the family heads have grown old, and the children have formed their own nuclear families. In the Arab culture, the family is the core of society, and this centrality starts from the traditional settlement pattern of courtyard houses that hosts the extended family structure.⁶¹ Since the house is a reliable organization that can be more responsive to the changing needs of the family, flexible spatial solutions can be harnessed to encompass the different needs. Spatial rearrangements may address,

⁶⁰ To qualify for the homeownership subsidies given to citizens, and for the financial capability of the middle-class in general.

⁶¹ Brian Edwards, *Courtyard housing: past, present and future* (Abingdon: Taylor & Francis, 2006), 38.

but are not limited to, the arrival of a new member through marriage or birth to embrace the new family.⁶²

Traditionally in Bahrain, a family is fiscally responsible for their children until adulthood, including the provision of housing. But, the social and political climate is continuously shifting and transforming since significant waves of population increase, from 213,102 in 1970 to almost 1,432,195 in 2016⁶³ have kept the locals on long waiting lists, with the waiting time reaching 15-20 years. With the diminishing housing supply and the visible social changes in family structures⁶⁴, the leading challenge facing the Bahraini society is supporting nuclear families becoming embedded in extended family house settings in their process of transition.⁶⁵

1.3.3.2. Social values

Family values in Bahraini households are diverse, but for the majority, they extend from socio-religious sources like Islamic sources⁶⁶, and socio-cultural sources like patriarchal family systems, as both diffuse a general sense of social responsibility towards the community. It is important to note that the model of the Arabian Gulf family is a unique one, merging features from traditional extended family and western nuclear family.⁶⁷ However, the Bahraini family is

⁶² Ali Al-Thahab, Sabah Mushatat, and Mohamed Gamal Abdelmonem, "Between Tradition and Modernity: Determining Spatial Systems of Privacy in the Domestic Architecture of Contemporary Iraq," *International Journal of Architectural Research: ArchNet-IJAR* 8, no. 3 (2014): 4, doi:10.26687/archnet-ijar.v8i3.396.

⁶³ Doherty, *Paradoxes of green: landscapes of a city-state*, 12.

⁶⁴ Larsen, *Life and land use on the Bahrain islands*, 13.

⁶⁵ El-Haddad, *Major Trends Affecting Families in the Gulf Countries*, 239.

⁶⁶ Quran and Hadith.

⁶⁷ El-Haddad, *Major Trends Affecting Families in the Gulf Countries*, 239.

still sustaining its character through the modernized traditional model, which affects their dwellings and living arrangements.

1.3.3.3. Islamic values

1.3.3.3.1. Relationships with the family

In Islamic teachings, preserving the family's integrity is a religious mandate, represented in various verses on how parents are worthy of highest levels of respect and care, especially in their old age. The notion of taking care of parents is seen as a non-negotiable obligation that children adhere to, supported by the religious text and social outlook. The Quran verse below is the widely used when explaining the importance of the children-parents relationship. It implies parents are the responsibility of children in their old age, and as a way of acknowledging their selfless care, they should be merciful and respectful.

Your Lord has ordered you to worship none except Him, and to be good to your parents. If either or both of them attain old age with you, do not say: "Fie on you", nor rebuke them, but speak to them with words of respect. (23) And lower to them the wing of humbleness out of mercy and say: 'My Lord, be merciful to them, as they raised me since I was little.' (24)⁶⁸

Responsibility and respect are translated through mutual living, as examined in the traditional way of living. In fact, the mutual living arrangement can be seen in other cultures mentioned in section 1.3.3.1, where typically the eldest male child is usually responsible for the parents and of a mutual living arrangement.⁶⁹ For example, in Japan, the contemporary interpretation to the traditional mutual living arrangement is termed two- generation housing,

⁶⁸ Quran Al-Isra 17:23-24

⁶⁹ Sandra C. Howell and Vana Tentokali, "Domestic Privacy: gender, culture and development issues", in *Housing, culture and design: a comparative perspective* (Philadelphia: Univ. of Pennsylvania Pr., 1989), 286.

where the nuclear family's independence is achieved in complete separation of living space in the same house, providing the benefits of co-living and independence for both families.⁷⁰ Similar to Bahrain and other eastern cultures, Japan maintained the extended family model after industrialization⁷¹, which is evident in the form of having two (and sometimes more) families in the same dwelling.

1.3.3.3.2. Modesty and privacy

In many middle-class families in Bahrain, women wear the hijab⁷² as part of the culture, and it plays a significant role in the segregation of gender in spaces.⁷³ Hijab is the instant giver of privacy for women; as such, it cannot be removed entirely unless it is in front of females or males from the first degree of relatives.⁷⁴ Therefore, when living in an extended family housing arrangement, women need to cover in front of the relatives of a second degree, which limits their circulation patterns. Preserving privacy for women primarily means controlling visual access to themselves, where that control gives them the freedom of movement in space. In traditional houses, many architectural features controlled visual access to the inside of the house. For example, the *dehriz* was a semi-public waiting area in the entrance for male guests; the *mashrabiya* was a perforated wooden screening feature covering the projected balcony of the

⁷⁰ The two generation house was supported by the Japanese government through a housing loan system in the 1980s, a cultural solution in response to a bigger shortage in housing. Yosuke Hirayama, "Home Ownership and Economic Change in Japan," *The Journal of Comparative Asian Development* 2, no. 1 (2003): 2-3, doi:10.1080/15339114.2003.9678372.

⁷¹ Gerald Handel, *Childhood socialization* (New Brunswick: Aldine Transaction, 2006), 30.

⁷² The traditional covering for the hair and neck that is worn by Muslim women.

⁷³ Al-Thahab, Mushatat, and Abdelmonem, *Between Tradition and Modernity: Determining Spatial Systems of Privacy in the Domestic Architecture of Contemporary Iraq*, 239-240.

⁷⁴ First degree of relatives consist of: father, grandfather, uncle, brother, husband, father in law, son, and grandson.

house, in addition to the fact that the rooms were arranged around the courtyard. However, women in the past were accustomed to wearing a long light cotton cover which was accepted to wear even on the neighborhood level while sweeping the front door of the house. This practice is still maintained in older generations of some villages in Bahrain. However, in contemporary Arabian Gulf families, the freedom of taking off the *hijab* and being comfortable in lounge wear in the house is only one aspect of privacy. Because of what modern life produced of individualism and privacy, the meaning of visual privacy now encompasses the need of isolating the movement from attention, especially in departure from and arrival to the house.

1.3.3.4. Patriarchy

Patriarchy is an evident family leadership role in the Arabian Gulf culture that has been reproduced religiously in Islam through the concept of '*qawama*,' an Arabic term that translates to the system of guardianship, defining the hierarchy in the institution of a family that puts the power in the hands of the husband in the family. *Qawama* is interpreted differently by traditional and modernist scholars. Traditionalists' interpretation revolves around the Godly distribution of strength between men and women, and modernists' interpretation views it an oppressive tool that impedes gender equality and perpetuates gender roles.⁷⁵ Whether exercising the male privilege through rules of *qawama* or patriarchy, this position has implications in societal and economic norms. Similar to most Arab families, in a typical Arabian Gulf family, the father, and in some cases the eldest son has the obligation of being financially responsible. Younger family members are usually welcomed to contribute, however, it is not mandatory. The primacy of financial responsibility creates a certain sense of power and authority of the patriarch in the household. The

⁷⁵ Shahbaz Ahmad Cheema, "The Concept of Qawama: A study of Interpretive Tensions" in *Hawwa* 11, no. 2-3 (2014): 235-51. doi:10.1163/15692086-12341245.

male voice is pronounced in significant family matters related to marriage, travel and in some cases work and education.

On the other hand, these power dynamics in the family have been gradually shifting due to globalization. In contemporary middle-class households of the Arabian Gulf where the wife is working and earning, it is expected that her earnings are her own and her financial participation is optional. Besides, any financial contributions from other members of the family do not cancel the operations of patriarchy, as the family patriarch man has the final say in family matters. Patriarchy may not have direct effects on the spatial organization, but it is a concept that affirms the centrality of male line by favoring the husband's family house as the default option when a new family has to decide on their new dwelling, what Suad Joseph terms as (patrilocality).⁷⁶

⁷⁶ Joseph, *Gender and Family in the Arab World*, 196.

2. Methodology

2.1. Study Design

The study was designed as an exploratory research to focus on the social dimension of sustainability within the modernized extended family house in Bahrain. To understand the transformation in the contemporary house type, the study uses qualitative methods to examine socio-cultural and economic factors that had direct implications on the design process and architecture. Thus, the study aimed to achieve the following objectives:

- a. Study and document patterns of design interventions in contemporary extended family houses to adapt with family growth.
- b. Inform architects and policy makers on family needs and accommodate them through an improved design process and optimum use of resources.
- c. Evaluate the sustainability of the contemporary extended family house through understanding economic, social and environmental motivations that led to their development.

2.2. Methods

The exploratory study employed three qualitative methods: typological analysis, floor plan analysis, and interviews. The methods were used to explore the architectural and sustainability implications of extended families' dwellings in the country. In particular, qualitative methods laid down the groundwork for raising questions and for developing hypotheses that would be applied to a more extensive research on diverse groups in future research on the topic.

The typological analysis consisted of a general overview highlighting a timeline of type evolution to set the stage for the studied contemporary type. Floor plans of two case studies were analyzed using diagrams and images to identify patterns and correlations. Patterns and correlations provide support to experiences of subjects, typological theories, and housing policy in Bahrain. Lastly, interviews focused on a deliberately limited sample group with a deep level of intensity. The sample size of five families is too small to allow generalizability, but it can provide a window into what a more extensive survey would reveal.

2.2.1. Floor Plan Analysis

The focus will be on the contemporary house type, presenting two examples of Bahraini houses in the studied housing setting. Again, due to study circumstances, these floor plans were gathered from local design offices in Bahrain⁷⁷, independently from interviewed participants. However, the floor plans come from families with similar socio-cultural backgrounds, and spatial arrangements, as the group of subjects under study. These floor plans were redrawn, coded, and analyzed through diagramming. The diagram analysis included tracing spatial changes that occurred to the subjects under study before and after accommodating the new nuclear families. The analysis was divided into three categories: spatial organization, access and privacy, massing studies.

2.2.2. Interviews

Interviews were selected for their ability to develop a rich data set that permits identification of motivations of interviewees. They also give a “thick description” of the subjects

⁷⁷ The floor plans are courtesy of two design offices in Bahrain: *Madaen Urban Planning and Civil Engineering* provided the floor plans of case study 1, and *Fekra Design Studio* provided the floor plans of case study 2.

of study. “Thick description” can be used to outline social behaviors from a culture to better the understanding from an outsider’s perspective.⁷⁸ For the researcher, the interviews were vital in understanding why young-couples live in such an arrangement, because of their greater flexibility, interviews were chosen over questionnaires to generate a user-centered perspective about experiences, opinions, and ideas which can challenge researcher assumptions.

2.2.2.1. Sample

Ideally, the sample would be 25-30 Bahraini young people in a marriage relationship, aged 21-35 year olds, who are current or former residents in an extended family house setting that has transformed from an original single-family house type, with diverse ethnic and class backgrounds. However, due to current circumstances of limited time and distance from the Kingdom of Bahrain, subjects were recruited as a sample of convenience following the snowballing method, with reliance on referrals that would qualify for the study criteria. The resulting sample was small (5 subjects) and all of them were from a single ethnic group, the *Baharna* group of the Bahraini society, who identify as Arab Shiite Muslim indigenous people of Bahrain and Eastern Arabia.⁷⁹ The final sample included five subjects (three females and two males), who lived in variations of the selected housing setting that follows the patriarchal model.⁸⁰ The subjects were working

⁷⁸ Clifford Geertz, "Thick description: Toward an interpretive theory of culture" in *Readings in the philosophy of social science*. (Cambridge: MA:MIT Press, 1994) 213-231.

⁷⁹ Doherty, *Paradoxes of green: landscapes of a city-state*, 11-12.

⁸⁰ The typical housing setting in the extended family dwelling in the Arab region follows the patriarchal household model, where the male individual marries in his parent’s house. However, the sample showed other examples of households were female individuals married in their parent’s house, and others lived in a freestanding structure that is within the subject’s family property. Suad Joseph, *Gender and Family in the Arab World* (Richmond: MERIP, 1994), 195-197.

professionals who represent the middle class with an average combined monthly income of \$4,000.

Also, one of the primary limitations of this method is the difficulty of acquiring interview subjects. The perceived private nature of the topic in a collective society like Bahrain, where discreteness and conservativeness are social norms, led some of the invited participants to decline participation. Also, the limitations of time and access resulted in having a sample of a single ethnic group in the Bahraini society. Nevertheless, the practicality of the sampling approach came from the ability to build rapport quickly and easily, due to similarities in cultural and ethnic backgrounds that the researcher shared with the subjects.

2.2.2.2. Interview protocol

The telephone interviews lasted an average of thirty minutes, and were recorded and transcribed using the paraphrased verbatim method. In-depth semi-structured questions, along with follow-up questions, allowed for a conversational flow. The questions were divided into the five interrelated sections discussed above: participant's background, original family house, current dwelling (the apartment), aspects of sharing, and the living experience.

The section on backgrounds demonstrated how gender, social class, income level, and family size played a major role in the spatial organization and the general impression of the experience. The next section examined the original house setting, to understand the connection between the apartment and the house spatially and socially, which aids in tracing the volumetric transformation according to family's needs. Following discussions on the social and spatial settings, participants talked extensively about their apartments in terms of components, access,

building process, and stay period. The final two sections were significant in evaluating the social dimension of the study, as participants shared their views on aspects of sharing, and the direct effects on their relationships with family members, and the overall living experience.

3. Findings

This section presents the research findings that were compiled from the three used methods: typological analysis, floor plans analysis and the interviews. Although floor plans and interviews were independently sourced, the subjects belonged to the same cultural background which aided in cross references for the researcher. During the analysis of floor plans, it was noticeable that the architectural solution came at a later stage of building the house, which marks the moment of need for a new dwelling. This was accorded in the interviews, as most participants mentioned that the apartment extension was built when the need of it occurred. In both cases, the location of vertical circulation and the separate access are the evidence of such practice.

3.1. Floor Plans Analysis: Case Studies

Two sets of floor plans, provided by local design offices, belong to houses that have undergone expansion to build apartments. The two cases are different in size of plot, layout, and social class for the purpose of cross comparison and pattern observation. The plans were simplified to produce the following 3 sets of diagrams:

a. Spatial organization:

Color coded diagrams showing the different functions of the house to demonstrate how the extension related to the layout of the original house.

b. Access and circulation:

This diagram shows the paths of circulation using primary and secondary axes by the original family and the new family. A significant finding while working on these diagrams is a third path for guests and non-family members for the *majlis* (men's guest room).

c. Gradient of privacy

Using only one color with different shades, the spaces were coded based on the function's need of privacy. This was combined with the access and circulation in order to see the implication of families' movement within the two dwellings on the location and sensitivity of private spaces, especially for the apartments.

d. Massing studies

The diagram is composed of two mass models representing the before and after stages. The visual presentation in 3 dimension helps understand the volumetric changes in space when adding the apartments. In addition, the mass model helps understand the location of the new access and how it influences circulation paths.

3.1.1. Case Study1: single story villa

3.1.1.1. Spatial organization

The owner represents the upper middle class group in Bahrain, which is reflected in the size of plot and the house. The house remained a single story until the owner's daughters got married in 2010 (Figure 10), marking the construction of the second floor as two separate apartments (Figure 9). The vertical staircase of the house is the only access to the apartments (Figure 8), and a central void was created to provide natural ventilation and lighting to the sitting areas in the second floor. The apartments are mirrored, granting acoustical privacy for both families, and despite their irregular shape, they are almost identical in net area. (Figure 5)

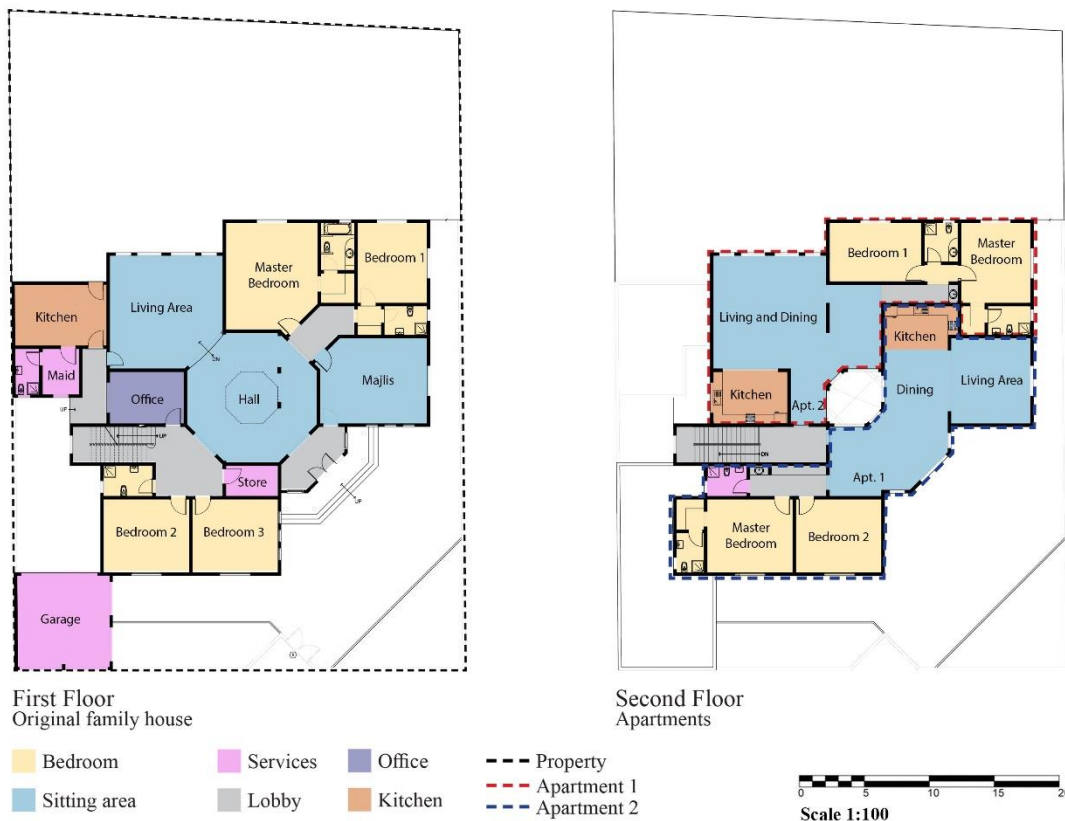


Figure 5: Spatial organization diagram, case study 1

3.1.1.2. Access and privacy

In this diagram, we can clearly see that the shared access between the new and old family compromises the privacy of the west bedroom zone in the first floor (Figure 8). The new family needs to pass through a lobby that serves as a distribution zone to the bedrooms and their shared bathroom, in order to reach the only vertical circulation.

On the second floor, the entrances of the two apartments start immediately after the landing. The apartments have a better gradient of privacy, as the sleeping quarter is located in the edges with its service corridor.



Figure 6: Access and privacy diagram, case study 1

3.1.1.3. Massing studies

From the mass models, we can clearly see that the house doubled in size and preserved the original house's layout without any substantial changes. The only inconvenient as appears is the shared vertical circulation between the original house and the apartment. (Figure 7)

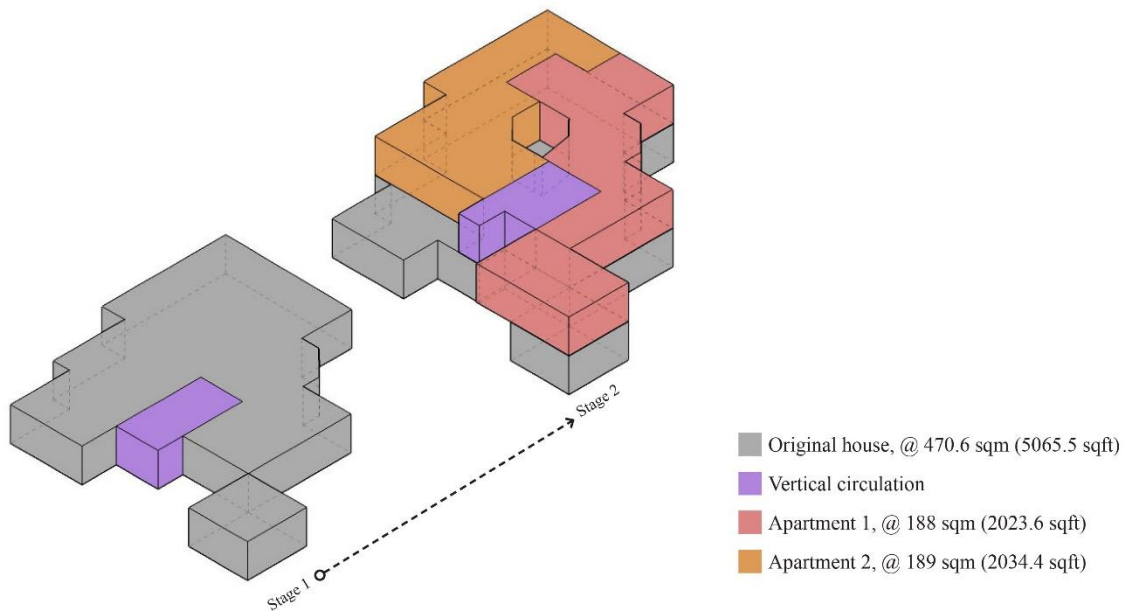


Figure 7: Massing studies diagram, case study 1

3.1.1.4. Images



Figure 10: Exterior of the house



Figure 9: Lobby of apartments



Figure 8: Shared access

Source: Images courtesy of Madaen

3.1.2. Case Study 2: two story villa

3.1.2.1. Spatial organization

3.1.2.1.1. Stage 1: Before the extension

The house below is in the Row Housing Area (A) zone (RHA), which is an old development area that contains town houses built as attached and semi-attached houses with small setback requirements. The owner represents the lower middle class group in Bahrain, reflected in the size of the house that occupies 90% of the plot. The design follows the typical arrangement, where first floor contains the living and services quarters, and the second floor contains the sleeping quarters. (Figure 11)



Figure 11: Spatial organization diagram stage 1, case study 2

3.1.2.1.2. Stage 2: After the extension

The house underwent significant changes, as the extension included modification, addition of staircase, and construction of the third floor for current and future uses (Figure 14). On the second floor, the married son's room was converted into a dining hall with a kitchenette, building an extension for the bathroom, adding an external staircase as a secondary access and building an internal staircase that takes the family to their second level which is located in the third floor (Figure 17). Through this arrangement, we can consider the apartment as a duplex, given the internal staircase feature and the double height of the sitting area (Figure 18). The third floor was split into two apartments. For the current one, the remainder of the apartment consists of the sleeping quarters, a study space, a sitting area and a balcony. The connection to the original house can be accessed from this level through the study area. (Figure 12)

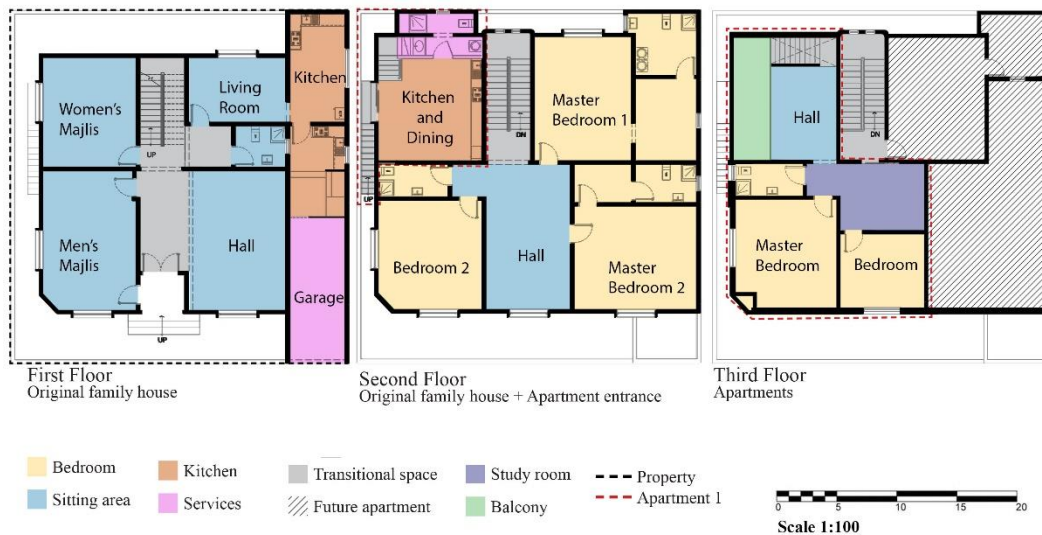


Figure 12: Spatial organization diagram stage 2, case study 2

3.1.2.2. Access and privacy

Given the location of the house in an old town in Bahrain and the social groups that live there, it can be inferred that the owner values social gatherings and have guests on a regular basis. The two sitting spaces on the left, the *majlis*⁸¹, are provided for the original family's men and women guests. For privacy purposes, the men's *majlis* has two doors, an external and an internal one. However, the women's *majlis* has only one entrance but placed in the back of the house for maximum privacy. (Figure 13)

Also, the separation of primary access (the external staircase, Figure 15) and secondary access (the internal third floor connection, Figure 17) of the apartment provides a higher level of privacy and independence to the residents. This will not be the case for the future apartment (hatched) as it will only have a shared access with the original house that leads to the third floor. (Figure 13)

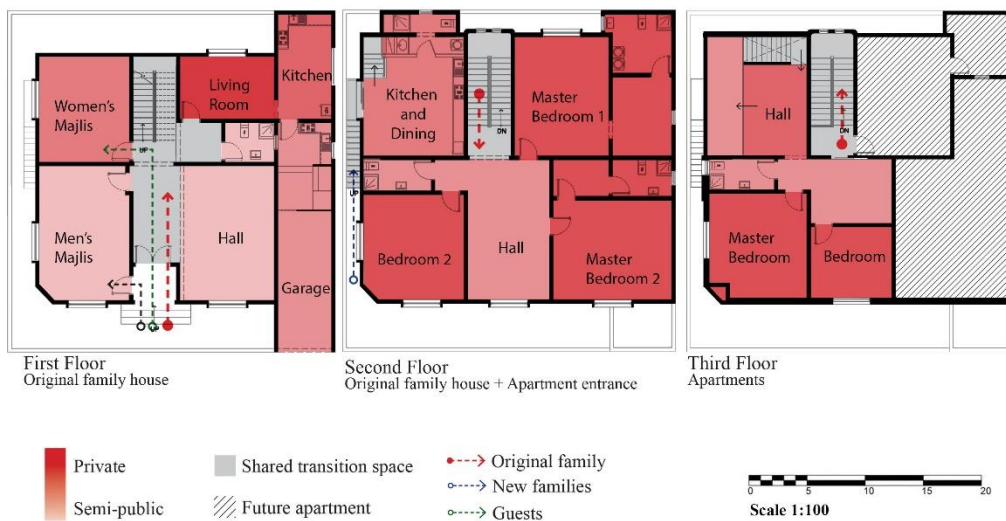


Figure 13:
Access and
privacy diagram,
case study 2

⁸¹ Guest reception space, typically for men.

3.1.2.3. Massing studies

For the studied apartment (apartment 1), it shows the optimum use of space and creative solutions to access and privacy. Due to the re-arrangement of spaces, the original house area decreased slightly, yet the first floor did not face any spatial changes (Figure 14). The changes of the exterior include the different windows designs that distinguish the new addition from the original house, although it maintains an overall integrated look. The challenge is on the urban level, as the floor plan did not show capacity for more than two cars in the garage. It is assumed that the residents park their cars in the neighborhood (Figure 15 and **Error! Reference source not found.**), which could be a challenge in an old town zone with the RHA zone in Bahrain.

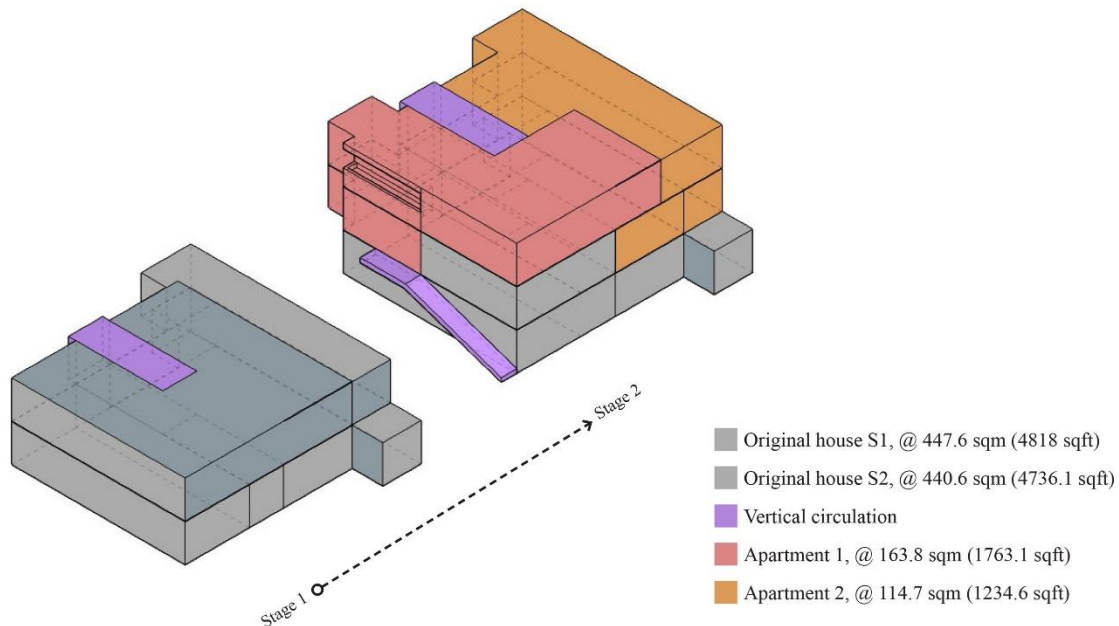


Figure 14: Massing studies diagram, case study 2

3.1.2.4. Images



Figure 15: Exterior view of the house



Figure 16: Neighborhood view taken from apartment entrance



Figure 17: Shared access between the house and the apartment



Figure 18: Kitchenette and dining area showing the internal staircase

Source: Images by Jaffar Al haddad.

3.2. Summary of Findings

The purpose of the interviews was to address economic, social and environmental motivations of young couples living in apartments inside their family's detached house.

The sample had a balanced representation of males and females, with a consistent range of combined income putting the participants in the middle-class category according to living standards in Bahrain. The majority of participants lived with their in-laws with an average of 6 residents in the household. Also, most participants lived in apartments located on the second floor with a separate entrance that they preferred to use.

Given that all participants belong to the *Baharna* ethnic group, they share many commonalities in their cultural backgrounds as mentioned in section **Error! Reference source not found.** on family and household, particularly their views on gender, privacy, and responsibility. Undoubtedly, these views shaped their experiences in similar ways, as they expressed an overall positive impression on their living arrangement praising the money saving opportunities and sense of security, with concerns on privacy and limitation of space.

As illustrated in table 1, the information was categorized into five interrelated sections for cross-comparison, following the general structure of the interview: participant's background, original family house, current dwelling (the apartment), aspects of sharing and the living experience. The analysis of these sections generated the four main themes below that will be discussed thoroughly in 3.5:

- Establishing a threshold: in relevance to the space demarcation created through separating the apartment from the house by design, in pursuit of independence and autonomy.
- Meanings of adulthood and responsibility: how the living arrangement is a double sided opportunity that leaves participants with questions on responsible adulthood.
- A temporary solution: the temporal aspect of the apartment that gives it a transitional nature.
- Changing social dynamics: a look into a deeper layer of the human-environment relationships between the apartment and the surroundings.

3.3. Summary of Interviews

This section summarizes each interview, highlighting their significant responses to the questions, which enabled the researcher to draw conclusions and parallels of the four themes mentioned in section Summary of Findings.

3.3.1. Participant 1:⁸²

3.3.1.1. The living arrangement

The participant is 26 year old female working professional, married to a 26 working professional, and currently have two children. When the couple got married in 2013, their living arrangement was set in the family compound, which contained the main parents' villa and three villas at the time for each of the husband's siblings. Because the compound reached its building capacity, the participant and her husband's only option was to create an apartment in the main villa. The second floor of the villa consisted of two apartments, the brother in-law's (who was building his villa in the compound) and theirs.

The apartment expanded on three stages as the family grew. In the first stage, the couple repurposed some of the empty rooms and combined it with a corridor; this gave them a 1-bed apartment with a shared entrance with the other two families: the parents and the brother-in-law. The second stage of expansion coincided with the participant's pregnancy and the brother in law's family moving out to their villa in the compound. The third stage came a few months later with her second pregnancy, as they needed more space for the new baby. At this point, they decided to take the whole second floor as a large apartment, but her father in law had another 'more

⁸² Appendix A.

sustainable' idea that would suit the 15 years window, which is to divide the house into two villas according to the needs of both families.

3.3.1.2. The planning process

For participant 1 young family, staying in the main villa was almost the only option, as her father in law objected to the idea of their living outside the compound. The main incentive for them to stay in the main villa was the low cost and high speed in modifying the existing structure. Another incentive had the family members as neighbors.

3.3.1.3. The separate access

The separate was introduced to the participant's apartment in the second stage of the expansion, and it has been used as the primary entrance ever since. Providing the separate access gave the participant's family "a sense of autonomy and privacy, and it developed a particular routine." When asked if the original entrance was associated with discomfort from the parent's side, which led to developing this routine, the participant answered: "I think it helped both families preserve their sense of privacy and autonomy in the space (...) there is a general sense of relief."

3.3.1.4. Aspects of sharing

The compound families contribute in a monthly budget for meal preparation, as her mother-in-law cooks for everyone on a daily basis. In addition, they all share the garden, playground and parking spaces.

3.3.1.5. Impact on social life

Participant 1 describes herself as a sociable and outgoing person who enjoys the company of family and friends, which helped her adapt to the new environment after marriage. On the one hand, she felt strongly about the shared dwelling role in reducing generational gaps. On the other hand, she thinks that this arrangement is not for everyone. Also, on special occasions like inviting guests, the shared living challenges the independence and privacy of the new nuclear families.

Another challenge to the social life of the participant is parenting, where the child receives guidelines from his parents, grandparents, and members of the extended family, as she explains: “being in a shared home compromises my control in parenting.”

Moreover, the participant gave her convenience level 6-7 out of 10, praising the kindness and nurturing of the family: “It's more about the people than space itself.”

3.3.1.6. Future provisions

The participant thinks that the shared family living will continue for the next generation, and this makes strategize her future provisions for her children. However, she is planning to contribute financially, as with her current arrangement she cannot provide a spatial solution for new families.

3.3.2. Participant 2:⁸³

3.3.2.1. The living arrangement

The participant is 27-year-old male working professional, married to a 25 year-old graduate who is currently unemployed, and have no children. The original family house was built in 1989 as a single story house, and later in 2007, the father decided to build the second floor as two apartments for both of his sons. When participant 2 got married in 2016, he and his wife furnished the full space and changed minor things in the interior. Currently, the apartment is comprised of a master bedroom, a bedroom, a hall, a kitchen and two bathrooms, which in his opinion is enough for a young family with maximum two children.

3.3.2.2. The planning process

For participant2, the apartment was his only choice for two reasons: having a stuffiest space ready to use, and his modest income in his first job. For practical reasons, the apartment followed the typical structure of the original house.

3.3.2.3. The separate access

Since the addition of the second-floor apartments, a separate entrance was created on the other street that the house is located on. The participant described this arrangement as ‘a comfortable secondary entrance’ as they are not forced to see the original family when they use it, according to him. He believes that the separate access provides visual privacy, given the conservatives of society where women are mostly veiled. This visual privacy enables him and his wife able to control the amount of visibility to their lives both physically and metaphorically: “freedom of movement and having control over the amount of information to share with the

⁸³ Appendix B.

family members.” The control of shared information, in his view, is the basis of maintaining a healthy distance thus a balanced relationship with his original family.

3.3.2.4. Aspects of sharing

The couple have a weekly family lunch with all residents of the house.

3.3.2.5. Impact on social life

With his current lifestyle and convenient separate access, the participant described his post-marriage relationship with his family as ‘formal,’ to indicate the “healthy distance” and the new hierarchy of his status within the household. He believes that this new form of relationship granted him the autonomy and the right level of connectedness that a married independent adult would have with his original family.

In general, he considers the shared living experience a positive one, as he appreciates the security, money saving and mutual contributions between him and his family. For these reasons, he gave his convenience level a score of 9.5 out of 10.

3.3.2.6. Future provisions

The participant envisions his future home to be in the same area of his family house, to retain the access of the benefits mentioned in sections 3.3.2.4 and 3.3.2.5. Also, he will allocate space for the future needs of his children; he is going to “invest in a solid foundation and structure that support expansion.”

3.3.3. Participant 3:⁸⁴

3.3.3.1. The living arrangement

The participant is a 25-year-old female engineer, married to her first cousin, a 26-year-old engineer, and have no children. She is currently living in an apartment located on the third floor of the in-laws family house. Being their relative, the apartment was the preferred option, especially that the setting is familiar. However, hijab rules still apply, and this limits the freedom of movement and compromises privacy.⁸⁵

The current space is comprised of a master bedroom, a kitchenette, and a hall. The participant mentioned that this is temporary space, as she and her husband are actively looking for a spacious apartment in another location.

3.3.3.2. The planning process

The current apartment used to be the house's service quarter, which makes less than half of the third floor. To convert it into a young couple's living space, they added a gypsum wall with a door after the landing, as the entrance of the apartment.

3.3.3.3. The separate access

The apartment is only accessible through the central staircase of the original house, which to the participant is not the ideal arrangement when it comes to independence and privacy. However, she is not firmly against it: "I prefer if it was in a different position, outside for example, but this doesn't bother me because, in the end, this is my aunt's house."

⁸⁴ Appendix C.

⁸⁵ See section 1.3.3.3.2, page 22. Also see note 74, page 22 for specific hijab rules.

3.3.3.4. Aspects of sharing

Lunch is daily prepared in the original house, and the couple is expected to be present. Despite their tiny space, they do not share any spaces with the original house, to establish independence.

3.3.3.5. Impact on social life

The participant described herself as a sociable person: “and sometimes living in a family house limits my ability and convenience to invite guests.” Because of her small space and shared access, she is unable to host guests and retain her pre-marriage social life. Living with the family had a positive influence on her life in general, as she considers it an opportunity for bonding.⁸⁶

Given the shared access, privacy concerns and the small living space, she gave a convenience level score of 5 out of 10.

3.3.3.6. Future provisions

The participant feels strongly about allocating space in her future house for her children’s families: “We don’t know what the future holds, so we better be prepared.”

⁸⁶ See section 1.3.3.3 Islamic values, page 21. Also see note 35, page 11.

3.3.4. Participant 4:⁸⁷

3.3.4.1. The living arrangement

The participant is a 33-year-old female working professional, married to a 35-year-old a working professional, and have three children. She is currently living in an independent house for a year, after briefly living in an apartment in her in-laws family house. The apartment used to have two bedrooms, a kitchen and a hall with a separate entrance, however, it was used by her in-laws which limited her private space to her bedroom only. Despite the hardships and discords, she agreed to live in that temporary solution to save their budget for the future home, which became a reality after four years.

3.3.4.2. The planning process

In 2006, her late father-in-law built the apartment on the second floor for his son, and by the time the couple got married in 2012, her husband bought a piece of land for their future home. Therefore, the apartment was their temporary living arrangement, which lasted for four years. As soon as their house was ready in 2016, they moved in and continued the construction and interior finishes gradually.

3.3.4.3. The separate access

The previous apartment had a separate access. However, it was not a significant element given the sister-in-law's sharing the apartment with them.

3.3.4.4. Aspects of sharing

The participant described her past experience as an uncomfortable temporary one. As opposed to the ordinary course of things, the family was sharing the space with her. Her mother in

⁸⁷ Appendix D.

law actively used her kitchen, and the sister-in-law lived in the second bedroom of the apartment. Because of that, she used to remain in her bedroom most of the time and limiting the use of other spaces in the house.

3.3.4.5. Impact on social life

Despite the rough start with her in-laws, the relationship transformed into a positive one towards the end of her stay. Her strong relationships with her sisters-in-law and mother-in-law were present in the times of need, as they helped her with her children later on, even after she moved out. She explains: “Until this day they babysit my children and take care of them when I need help.”

Having lived in both situations, she gave a convenience level score of 3 out of 10 for her previous dwelling, and a full 10 for her current one.

3.3.4.6. Future provisions

The participant is entirely against dependability of children on their parents for housing provisions, as she thinks to provide financial support and allocating space will spoil them and turn them into failing adults. Therefore, she did not account for their future families when planning her current house.

3.3.5. Participant 5:⁸⁸

3.3.5.1. The living arrangement

The participant is a 29-year-old male engineer, married to a 25-year-old engineer, and have one child. He is currently living in an apartment in his in-laws family house. The house was built in the early 2000s as a two-story villa, and the second floor was designed to be divided into two apartments, which happened in 2015 when the couple got married. Each apartment is composed of a living hall open to a small kitchenette, a small room, a bathroom and the master bedroom.

3.3.5.2. The planning process

For the participant, staying with the family (on either side) was the only option, as he considered it a temporary solution while he and his wife save money towards their future home. When they weighed their options on which family house to live in, they saw that his wife's family house is a better one because it required fewer modifications.

3.3.5.3. The separate access

The apartment has two entrances, a separate access one from the outside of the main house, and another one connected from the inside. For privacy and cultural reasons, the participant uses the separate entrance most of the time.

3.3.5.4. Aspects of sharing

According to the participant, his usage of space is different than his wife's, particularly when it comes to the shared spaces. For him, he occasionally uses the *majlis* when he invites his

⁸⁸ Appendix E.

friends over. However, his wife uses the spaces of the house as a continuation of the apartment, where she mostly spends time with her family in the dining area.

3.3.5.5. Impact on social life

The participant didn't have strong opinions on the living arrangement's impact on his social life, as he mostly socializes with his family and friends outdoors. Regarding the family interaction, he mentioned that he sees his in-laws as he leaves or arrives at the house, as they don't have a fixed get-together schedule. As for his own family, he mentioned that his living arrangement created a distance that is considered normal for independent adults who move out.

He gave a convenience level score of 8 out of 10, as he and his wife were pleased with the experience.

3.3.5.6. Future provisions

The participant mentioned that they currently have a piece of land that he and his wife prefer to sell and buy one that is closer to her family house. In his view, it is difficult to benefit from the governmental services of housing, which makes it his responsibility to provide for his future children: "when I decide to build my house I must allocate space for my future children's families (...)I think the co-residence with the family will continue in the future".

3.4. Analysis of Interviews

The purpose of the interviews was to address economic, social and environmental motivations of young couples living in apartments inside their family's detached house.

The sample had a balanced representation of males (2) and females (3), with a consistent range of combined income putting the participants in the middle-class category according to living standards in Bahrain. The majority of participants (4) lived with their in-laws with an average of 6 residents in the household. Also, most participants (4) lived in apartments located on the second floor with a separate entrance that they preferred to use.

Given that all participants belong to the *Baharna* ethnic group, they share many commonalities in their cultural backgrounds as mentioned in section 4.3 on family and household, particularly their views on gender, privacy, and responsibility. Undoubtedly, these views shaped their experiences in similar ways, as they expressed an overall positive impression on their living arrangement (4) praising the money saving opportunities (5) and sense of security (3), with concerns on privacy (5) and limitation of space (3), as understood from the following statements:

- Participant 1: "I feel that my family would have more day-to-day privacy if we have our own villa."
- Participant 2: "I appreciate the social life aspect of it, in addition to the security and safety aspects. I can rest assured if I am not at home because there are people I trust in there that will be ready for any emergency."

- Participant 3: “To me, it is (privacy) the ability to move in space without being seen by anyone who might wonder what the other person is doing and why.”
- Participant 4: “The advantage is having people to count on when you need help, and as a temporary solution, it is an excellent way to save money.”
- Participant 5: “The only disadvantages of this arrangement are that space is limited, it will get crowded in the future, and privacy level is not at its highest.”

In Table 1, the information from the interviews, based on the structure and questions of the interviews, were divided into five interrelated elements:

- Background: to help the researcher understand which variables in the participant’s formation play the most significant part in shaping the dwelling decisions.
- Original family house: here the information on the original house starts differentiating each experience. For example, the bigger the size of the house with fewer number of residents, result in a bigger apartment for the participant. Also, the side of family on which the participant lives, has a direct implication on the convenience level.
- Apartment: this section extensively investigates the planning⁸⁹, components, financing of the current dwelling of the participants, in order to make cross-

⁸⁹ The participants were asked if they consulted architects or specialized engineers, and if they applied for building permits through the municipality council (see Appendix F). This reflects the amount of violations that occur in similar projects, and indicate whether the regulations do their work in facilitating the expansion of houses.

comparisons between their experiences.

- Sharing: this section highlights the aspects of sharing, both tangible and intangible. These aspects indicate the level of interaction between the participants and the families, and in some cases reveal meanings of independence and autonomy.

		Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Background	Sex	Female	Male	Female	Female	Male
	Age	25	27	25	35	29
	Occupation	Business Analyst	Data Base Analyst	Civil Engineer	Banker	Mechanical Engineer
	Monthly Income Level	BD 1700 \$ 4507	BD 500-1000 \$ 1322-2644	BD 1500 \$ 3978	BD 1500 \$ 3978	BD 1700 \$ 4500
	Number of Children	2	None	None	2	1
Original family House	Year of Completion	2011	1989	1995	1985	2000
	Type	2 Story Villa	1 Story Villa	2.5 Story Villa	2 Story Villa	2 Story Villa
	As Built Area Before Addition m ² (ft ²)	633.5 (6819)	400 (4305.5)	420 (4520.8)	410 (4413.2)	396 (4262.5)
	Family Side	In-Laws	Own Family	In-Laws	In-Laws	In-Laws
	Number Of People (Plus Apt.)	6	10	6	6	7
Apartment	Year of Completion	2013	2007	1995	2006	2015
	Location	2 Story (Half of The Villa)	Half of 2 nd Floor	Half of 3 rd Floor	Half of 2 nd Floor	Half of 2 nd Floor
	As Built Area m ² (ft ²)	350 (3767)	97 (1044.1)	70 (753)	180 (1937.5)	90 (968.7)
	Spatial Intervention	Modification And Extension	Extension	Decoration	Modification	Modification
	Separate Access to Apartment	Yes	Yes	No	Yes	Yes
	Consultant Services	Yes	Yes	No	No	Yes
	Applied for Building Permit	Yes	Yes	No	No	No
	Financial Aid for Construction	Father In-Law+ Personal Loan	Father	Father	Father	Personal Savings
	Financial Aid for Finishing	Personal Loan	Personal Loan	Personal Loan	Personal Savings	Personal Savings
	Elapsed Time Living	4 Years	1 Year	2 Years	4 Years	2 Years
	Expected Staying Period	Long-Term	10 Years	2 Years	2 Years	10 Years
Sharing	Space	Garden	No	No	Kitchen	Majlis
	Meal	Yes, Daily Lunch	Yes, Weekly Lunch	Yes, Daily Lunch	Yes, Daily Lunch	Yes, Daily Lunch
	Parking	Compound	Neighborhood	Neighborhood	Neighborhood	Neighborhood
Experience	Convenience Level	6-7	9.5	5	3	8
	Advantages	Strong Family Bonds, Savings, Child Care	Cooperation, Savings, Security	Savings, Security	Savings, Child Care, Security	Strong Family Bonds, Savings, Baby-Sitting
	Disadvantages	Lack Of Privacy, Challenges In Parenting	Lack Of Privacy , Limited Space	Lack Of Privacy , No Responsibility, Limited Space	Lack Of Privacy, No Responsibility, ,Family Discords	Lack Of Privacy , Limited Space

Table 1: Summary of interviews

3.5. Themes

3.5.1. Establishing a Threshold

The biggest concern of respondents in regard to their apartments was the degree of spatial separation from the original house, making the apartment accessible from a shared transitional space and a separate external access. As a concept, access acts as the threshold that defines the territory of the dwelling,⁹⁰ imposing rules of independence and privacy for the new family (Figure 19). The separate access and the preference of using it, as described by most participants, is a symbol of *istiqlaliyah*. In Arabic, the word *istiqlaliyah* means both independence and autonomy depending on the context (see section **Error! Reference source not found.** on the expanded family model). When participants talked about the actual space, they used the word to refer to the physical attributes independence where their dwelling considered a separate entity, not part of the original house. However, when spoken in the social context, particularly about the level of decision making and freedom of carrying on a particular lifestyle, the word was used to mean autonomy, which refers to the state of self- governance.

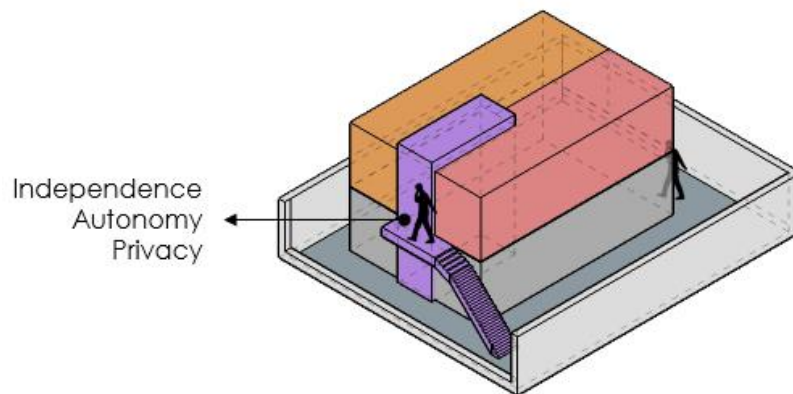


Figure 19: The diagram shows how access and spatial separation in establish a threshold.

⁹⁰ Rapoport, *House form and culture*, 78-80.

Independence and autonomy are conditional, according to the average middle class Bahraini family dynamics.⁹¹ In this cultural context, autonomy is assumed as the state of self-governance between partners, which does not extend to the original family house due to the presence and role of the family patriarch. Yet, globalization and urbanization have gradually made the concept of *istiqlaliyah* a prominent feature of the contemporary Gulf family, due to influences of lifestyle and values adapted from the western nuclear family model.

Part of the threshold set up is insulating the dwelling to offer privacy for its users through physical and visual control. In the Muslim household, privacy is an essential aspect as it affects the freedom of movement for both men and women, in addition to the personal comfort of women in space.⁹² For female participants, the meanings of privacy are primarily applicable to their modesty, whether there were men or not, as they are expected to dress modestly when they use shared spaces with the original family. Additionally, the participants take on privacy extends beyond the modesty and movement in space, where lack of privacy means exposing family matters and passively invite intrusions from other family members, and in the words of participant 4: “Being independent is a precondition for privacy, and privacy means protecting the family’s secrets and contain any problems before they become a subject of gossip and public opinion.”⁹³ With the exception of participant 4, this opinion was mostly expressed by male participants,⁹⁴ as their concerns for privacy in space stem from the socio-religious value of preserving the family’s

⁹¹ See section 1.3.3.4 on patriarchy, page 23.

⁹² See section 1.3.3.3.2 on modesty and privacy, page 22.

⁹³ Appendix D.

⁹⁴ Appendices B and E.

integrity being the heads of their new households. In the same vein, male participants showed attentiveness to the custom of the hijab, where men must take permission before entering the house⁹⁵ to allow women to cover in men's presence in the space, as participant 5 explains⁹⁶:

I use the external one (separate access); of course, I rarely use the internal access, only when I have to. I find that the external entrance provides independence. I can't immediately go inside the house, they need to cover, and I need to excuse myself before entering, so using this entrance provides everyone with the needed privacy.

3.5.2. Meanings of adulthood and responsibility

In many Arab households, especially Arabian Gulf ones, two concepts define the life stage of adulthood: marriage and homeownership. The concept that marriage is the key to acquiring (conditional) independence and autonomy reaches its fullest capacity when coupled with the establishment of a household.⁹⁷ On the other hand, homeownership is a higher level of independence and autonomy, and a sign of the capability of the adult to handle more responsibility, especially when they have children (Figure 20).⁹⁸ In this study, the apartment is assumed an independent household for many, provided that it has a separate entrance and location from the original family. Still, participants were questioning their stance on being responsible adults in the situation. Participant 3 commented on the way to responsible adulthood is fully achieved is through home ownership: "...But if they had the chance to be in an independent house, if they can

⁹⁵ This applies to when men are visiting another house, or when there are second degree relatives in the space, even if it was his own house.

⁹⁶ Appendix E.

⁹⁷ Joseph, Family and gender in the Arab world, 196-199.

⁹⁸ As in the cases of participants 1, 4 and 5 as they feel more pressured to plan for homeownership.

afford that, I encourage them to move out and be independent to be entirely responsible adults.”⁹⁹ In the time and age of rising prices of lands, costs of construction,¹⁰⁰ stagnant income levels and diminishing welfare, home ownership for young professionals of the middle class sounds out of reach. The only way to reach the status of a responsible adult is by passing through the ‘apartment stage’ as a bridge to homeownership.

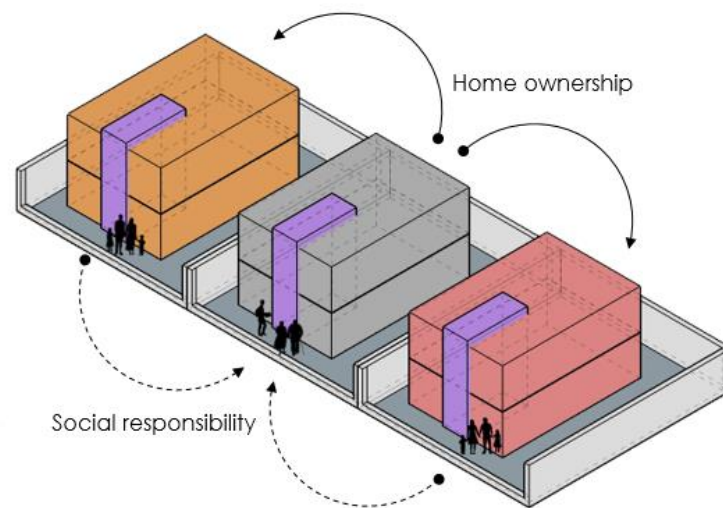


Figure 20: Highest fulfilled living arrangement: independence and reciprocal social responsibility.

Another compromise of responsible adulthood is the capability of autonomous child rearing in a multi-family dwelling.¹⁰¹ As a parent, participant 1 calls it a double-sided situation, where it is convenient for a working mother to have her children in a house with trusted people who can look after them until she is home, but it is a different situation with parenting. “...it is a bit hard to establish your ‘own’ family routine and guidelines as you are limited by the fact that

⁹⁹ Appendix C.

¹⁰⁰ Appendix F, breakdown of cost for building a single family house in Bahrain from a local design office.

¹⁰¹ See note 98, page 61.

you are actually living with the in laws and hence have to adjust and sometime compromise your own guidelines and rules to theirs.”, she mentions.¹⁰²

The concept of mutual social responsibility between parents and children is complex. With limited means of their adult children, parents feel socially responsible for giving them a financial and social cushion, which is the apartment inside the house, to help them in their early years of marriage. Additionally, despite the young couple’s struggle with concepts of responsible adulthood, most of them feel similar to their parents in regards to housing provision for their children in the future. On the contrary, participant 4 had a radically different view. According to her own experience, she objects to the concept of co-living. She believes that “they need to make it in life and build their own way, starting from their place of living. If they had everything, they would turn into failing adults who depend on their parents and never leave the nest.”¹⁰³ Similarly, for participant 1, the idea of being socially responsible towards her children is to contribute financially to help them own a home, rather than allocating space in her current dwelling.¹⁰⁴

3.5.3. A Temporary Solution

Temporary is the term repeatedly used when participants were asked about their current apartments, although their expected time of stay is the average of 10 years.¹⁰⁵ It assumes that “temporariness” is opposite to “settlement” and “rootedness,” which are attributes associated with home and the availability of space for growth (Figure 21). Unless the house is located in a

¹⁰² Appendix A.

¹⁰³ Appendix D.

¹⁰⁴ Appendix A.

¹⁰⁵ See Table 1, page 58.

spacious plot that has room for expansion¹⁰⁶, the apartment within the family house is a permanent limited space that restrains growth and freedom of movement. In exceptional cases, there is a possibility of claiming parts of the original house to expand the apartment in proportion to the needs of both families.¹⁰⁷ Yet, this poses questions of righteousness and justice in expansion. The increasing area in the apartment generally mirrors a decreasing area in the original house area. Therefore the act of asking for more space in a finite land on the account of the original family could be construed in extreme cases as intrusion and exploitation.

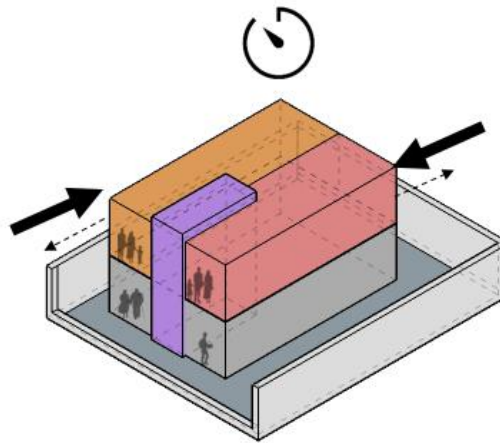


Figure 21: Temporariness created by limitations and growth.

On the other hand, acknowledging the temporary nature of the space indicates the aspiration of a better living condition, where a single family detached house is perceived as the ideal dwelling. Fueled by hope and planning, it is a promise by the young family to themselves to secure the funds and own the house to call home. When participants during the interview refer to the apartment as ‘the apartment’ and the parent’s house as ‘home,’ it is a sign of attachment to place. Unlike the temporary apartment, home is the permanent place that one dwells in and feels

¹⁰⁶ Similar to case study 1, see Figure 5 page 32.

¹⁰⁷ See section 3.3.1.1 in page 44 on the living arrangement of participant 1, describing the stages of the expansion.

the utmost level of comfort and being. Therefore, it is understandable that many people choose this temporary solution in order to own their permanent home strategically. All of the participants agreed that staying in the family house is an excellent way to save money for the future home, especially that the need for bigger space comes with the growth of children.

3.5.4. Changing Social Dynamics

In the studied cultural setting, the expected social interaction level with the family is daily, as part of the *silat-ar-rahm* Islamic value.¹⁰⁸ Participants 1, 2 and 3 said that they do not feel pressured to be seen on a daily basis by the original family. This statement invalidates the perceived expectation that meaningful communication means being physically present every day to the original family, and leads to assume that instead of day-to-day visual communication with family, responsible contribution and presence are the preferable practices. These practices could be achieved through financial contributions, acts of service, helping in times of need, and in modern-day technology maintaining regular check-in phone calls and being active in the family's WhatsApp group.

Moreover, the established status of co-existing independent dwellings through separation by design, generate a new level of family dynamics, where the apartment dwellers and the original house dwellers are neighbors on the micro level, and extended family on the macro level. (Figure 22)

It is evident from the interviews that the architecture of social networks has changed with the evolution of technology and urbanized lifestyle. Socializing for the modern Arabian Gulf

¹⁰⁸ See section 1.3.3.3 Islamic values, page 21. Also see note 35, page 11.

individuals happens primarily in educational institutions,¹⁰⁹ which puts classmates with a higher probability of becoming one's friends than neighbors, especially in the private education institutions sector. Therefore, the neighborhood no longer has the substantial meaning that offers social cohesion and interdependent relationships like the past, where the pre-oil generation grew up in courtyard houses in a closed-knit urban fabric. Hence, for most of the participants, family is their substantial neighbor and being close to them is of essence: "Another incentive is being surrounded by family, at the end of the day your family members are your neighbors," participant 1 mentions.¹¹⁰ In addition, participants' social networks rely on their personal relationships and not ones that emerged from their locale: "My contacts and social network depend on me as a person, not my location," said participant 3.¹¹¹

Another cultural aspect of the typical Bahraini household is hospitality. Guests are expected frequently, and inviting them to the house works as a mechanism to sustaining one's social network. Traditionally, spaces of socializing with nonfamily members like guests are gender segregated. Women are known to be indoor socializers, primarily in houses, and men are predominantly outdoor socializers. As a design treatment, the strict rules of privacy of veiled women in the household, segregated spaces encourage the occurrence of social events.¹¹² A recurring theme by female participants in interviews was the limitation of having guests over in their apartments. Most participants don't see the original house as an extension of their dwelling,

¹⁰⁹ El-Haddad, *Major Trends Affecting Families in the Gulf Countries*, 239-240. Also see Kadhim, *Natures of Possessiveness*, 134-138.

¹¹⁰ Appendix A.

¹¹¹ Appendix C.

¹¹² Othman; Arid and Buys, Privacy, modesty, hospitality and the design of Muslim homes: a literature review, 19-21.

and therefore try to avoid sharing spaces unless necessary. Participant 3 expressed her discontent of that situation: “I am a sociable person, and sometimes living in a family house limits my ability and convenience to invite guests. I rarely have guests that are not family, because my space is small and the entrance is from the main house.”¹¹³ A similar comment was made by participant 4, who used to live with her in laws and now lives in her own home¹¹⁴: “I am a very sociable person, but when I was with my in-laws, I didn’t have any visitors or guests because it wasn’t my place. Now that I have my own house, I made sure I have big halls to host people.”¹¹⁵

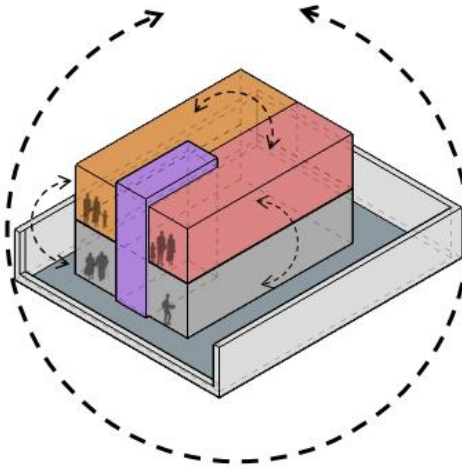


Figure 22: Micro level neighboring relations, and the macro level extended family relations.

¹¹³ Appendix C.

¹¹⁴ See section 3.3.4.1 on living arrangement, page 51.

¹¹⁵ Appendix D.

3.5.5. Themes Conclusion

To summarize the four themes mentioned earlier, the term “attributes of fulfilled living” will be used, as illustrated in the diagram below (Figure 23). The diagram shows the implication of the environmental quality of the house (regarding articulation of space) on the degree of fulfilled level. According to the participants, the attributes of independence, autonomy, and privacy can be better achieved through an enhanced separation of space and access. However, responsible adulthood is the single attribute that could only be achieved through self-funded homeownership. This is not to say that the desired detached dwelling is entirely isolated and distant from the family house. In fact, most of the participants showed preference to remain near the original family house. This proximity is to ensure the continuation of the social support and the practices of reciprocal social responsibility between the new nuclear family and the original family (parents or in-laws). This is manifested mainly in the childcare aspect, especially for working mothers, taking care of their parents in their older age, and to the neighboring element mentioned in section 3.5.4 on changing dynamics, provided a defined territory that grants them with the desired level of fulfilled living.

In the same light, one of the reasons for the prevailing extended stay -which lasts up to 10-15 years- is to strategize homeownership. Realistically, participants can choose to stay in one of the new MOH-private partnership developments that offer affordable spacious apartment with its full amenities,¹¹⁶ and settle for the ‘permanent’ apartment solution. However, the preference of staying in the temporary apartments for the purpose of saving shows a strong will to own a house in the same area of the original family (either side) for the social benefits mentioned above. This

¹¹⁶ See section 1.3.2.2 on housing policy overview, page 16.

housing option is clearly not affordable, and costs participants a lot of time and money, because the developed areas where their family houses are located have fewer subdivisions at inflated prices. A shred of evidence for this argument is exemplified in the experience of participant 5.¹¹⁷ When asked about his long-term housing plan, he mentioned that he owns a land that is 6.2 km away from his current dwelling, which is a 14 minutes' drive. For Bahrainis, this is not the ideal definition of proximity, particularly that it is located in a 'different' area than the family house. Moreover, he mentioned that he and his wife would revisit their options in that regard, as they prefer to sell their land and look for another one closer to their current dwelling, which will mean extra years of saving. This affirms the overarching perspective shared by the participants, that the apartment is a transitional stage, a temporary dwelling that gives hope and promise for the detached house which fulfills their living aspirations.

¹¹⁷ Appendix E.

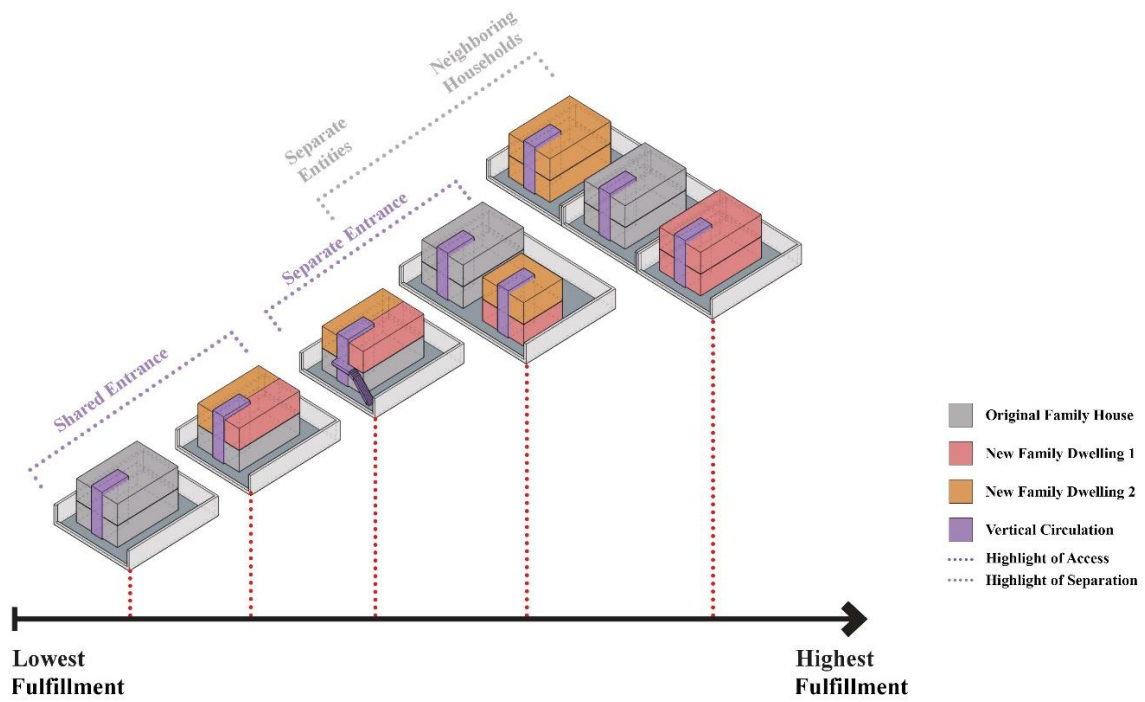


Figure 23: Fulfilled living in relevance to type mutation

4. Conclusions

The study aimed to address primary questions on the main drivers of the prevailing apartments within the contemporary extended family house in Bahrain, in an attempt to situate it within a broader social sustainability discourse. The goal was to start an exploratory research and experiment with themes on socio-cultural features in the society, supported by evidence primarily from case studies, in addition to architectural analysis.

The findings of the research varied between affirming and refuting some assumptions on the profound social values that constitute the Bahraini society that led to the emergence of such housing type. A key finding from the qualitative analysis of typology and case studies showed that the constructed apartments within the initially detached single-family house could be considered as a typology-mutation that developed primarily due to the decline of housing provisions by the state. This conclusion was supported through the experiences of interviewed participants who repeatedly mentioned how the responsibility of providing adequate housing shifted from the state to the citizen, which makes the family house extension the best transitional solution towards their long-term plan of a detached house. However, this transitional solution comes at a cost, which is, according to most participants, a significant compromise to their independence, autonomy, privacy and responsible adulthood. A prominent finding was that young married Bahraini couples find it difficult to start their lives without financial and social support from their families, which in some cases extend beyond housing provisions.

To evaluate the sustainability of the housing typology in this study, the researcher tried to find a suitable definition of social sustainability in relevance to the expansion of houses. Based on the parameters of the research, the term can be conceptualized as the spatial needs to sustain particular structures and relations in the Bahraini society.

However, the limitations of the study, primarily the size of the sample and the fact that it represents only one group of the Bahraini society, it is not possible to draw a generalized conclusion. Instead, we can conclude that the sustainability of the presented housing solution conditional to its temporary state, and is problematic if it became a permanent and an only option. Space for growth is a precondition to a thriving society and social sustainability, given that the need to expand is natural and relative to the growth of families. Despite the efforts of designers and policymakers to deal with scarce resources like land, budget and natural resources; through advocating vertical expansion in the form of apartment buildings, the detached house and horizontal expansion are still the preferable housing solution. There is a need to reach a middle ground where this can be achieved, through combined creative solutions in architecture and policy without compromising the well-being and vitality of individuals.

In terms of design, it is premature at this stage to provide solutions as each case is unique because of its design parameters, in addition to the limited information obtained from a small sample of five case studies. However, the following general design propositions could be considered, with the awareness that their implementation will depend on the parameters of each case:

- Reconsidering transitional spaces hierarchy: most participants expressed discomfort in passing through the central spaces of the original family house along with concerns of privacy. To overcome this issue, a new component could be introduced to act as a neutral transitional space that promotes interaction and grants both families desired privacy.
- Provision for separate access: as explained in section 3.5.1 (Establishing a threshold theme), the separate access is an essential feature in defining the boundaries of the new dwelling, a giver of privacy and independence, and allows for freedom of movement given cultural customs of modesty. Ideally, the provision of the separate access should be external and on a location different from the original entrance.
- Division-friendly planning: most participants expressed their will in allocating space for their future children's families. This entails an adaptive divisible design that would require minimum interventions, reduce cost and waste of construction, and allow for quick completion of the new dwellings.

In summary, to fill the gaps in our knowledge around house extensions and their implications on the quality of life of Bahrainis, it is necessary to continue the study with a larger sample that encompasses the diverse groups of society. Also, an in-depth exploration of family lifestyle and access to provisions will be helpful in developing a compelling hypothesis around implementing social sustainability strategies, which derive from the goals of sustainable development.

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Appendices

Appendix A: Interview with participant 1 Extended family house study

Venue: phone call
Date: November 7, 2017
Duration: 47 minutes
Method: recorded
Interviewed and transcribed by author

The interview was conducted through a phone call as the participant is based in Bahrain. The participant lives in a family compound with her in-laws, where 3 of her in-laws have their own villas, except that she and her husband share the main family house that has gone through spatial changes for the past four years. The interview had a smooth flow following the intended structure of the questions. The participant was articulate and insightful in reflecting on her living arrangement and experience.

Interviewer (I): Tell us about yourself and your background?

Participant (P): I am 26 years old and my husband is 27 years old. We got married four years ago; we stayed with my in-laws ever since and now we have two boys. I work as an analyst in a semi-governmental business exhilarating organization, and my husband works in insurance. Our combined monthly income is around BD 1700 (\$ 4507). Our living arrangement was in several stages, but we will go in-depth with that throughout the interview. But when we first lived here it was comprised of a room and a small hall-corridor, within the original house.

I: As you mentioned earlier, your living arrangement was made in stages, could you walk me through the process?

P: My husband has one brother who was living in the family house with his wife and two kids. When we got married, we used one of the empty rooms and combined it with a corridor and kind of created our space. So me and my husband as a newlywed couple and his brother's family shared the second floor of the family house. Naturally, my brother in law had the bigger space because he had children.

When we first got married, we didn't have a clear vision of the dwelling situation. We had a lot of expenses to cover with a modest income, as I was unemployed at the time. Things started to change when I got pregnant, and we had the urge to expand our little apartment to accommodate the baby and our new needs. We started making the apartment that we currently live in which involved adding two spaces to the apartment we lived in: my sister in law's old bedroom, plus the area on top of the garage. This apartment has been our home for the past three years. My brother in law moved out from the family house last year and built his own house inside the compound. A few months later, I got pregnant with my second baby and thought it was time for another extension to accommodate the family's new needs, mainly that we were able to take my brother in law's section of the second floor and added it to our apartment. Throughout the planning process, we felt that we were working on something that is not sustainable for the next 10-15 years. What if I got pregnant for the third time and space felt tight again? How are we going to expand? As children grow, they will need more space to play and have some privacy. That is when my father in law decided that the house is big enough to accommodate two families, it is just a matter of planning. He saw that he and my mother in law don't need all the space in the villa, and he was happy to trade it for our smaller section since we have a growing family. The confusion led us to consult an architect who gave us a new approach to rearrange the space and

divide the house vertically. We will have the larger half of the first floor and a smaller half of the second floor which is the section we intended to add to our apartment, and the rest will be for my parents in law. The design proposal was made according to the needs of both families, as my family grows we need a bigger living space and at least two bedrooms for the kids, while my parents in law need a smaller space. I am glad it worked out that both of us have a two-story arrangement with the new design.

I: Is this considered as your permanent residence or you have plans to move out?

P: To be honest, we thought of moving out given that the compound is limited in space and cannot fit another villa, but my father in law objected to this idea. He told us that the concept of building a compound is to gather all of his family in the same place. For that reason, the compromise was to divide his villa in half and give us the larger half. If you're asking about choices, it wasn't an option to leave in my situation.

I: Let's backtrack to the planning stage of the living arrangement, did you apply to housing subsidies offered by the ministry of housing?

P: When we first got married we applied for either a housing unit or a loan, I am not sure, but four years have passed, and we haven't heard anything back from the ministry. But I know that the ministry of housing compensates those who didn't get their housing request after five years, so until now we didn't benefit from these services.

I: What was the primary incentive to live with the family and how did you finance it?

P: As I mentioned earlier, being in a compound didn't give us much choice in the living arrangement. My husband has three siblings, and all of them had already built their villas inside the compound, and we were the only ones who were still figuring it out. My father in law was planning for the future when he started building the compound, but that long-term vision was missing a short-term solution for my husband and I. The primary incentive for sharing the house with my in-laws was that the house is an existing structure which will save time and money. Since we couldn't get benefit from the housing subsidies, we had to take a loan from the bank for the contracting and the furniture. Another incentive is being surrounded by family, at the end of the day your family members are your neighbors.

I: Throughout the planning process, did you feel that the building regulations helped or impeded your design?

P: Having to apply for permits to modify an existing structure that one lives in is not easy. In my experience, it was challenging to accommodate my needs in an existing structure and clash with the limitations of the building regulations at the same time. I had to change my mind on expanding some areas, like a corridor, just to avoid applying for a special permit from the municipality. The architect warned us of making violations that the municipality inspector would catch during inspection visits, which will end up suspending the contractor or costing us more time and money.

It is true that our case is mostly modification not a new-built, but since we have some space around the house, we wanted to incorporate it within the extension, to compensate for the area that was wasted in the division. So the time consumption part and the follow up with the architect and the municipality is somewhat challenging.

I: Did you provide separate access to the apartment and how often do you use it?

P: Ever since we had a separate entrance, which is an elevator from the outside, we almost use it all the time. We only use the original house entrance if we want to visit my in-laws. But our daily

movement is through our entrance. Having a separate access give us a sense of autonomy and privacy, and it developed a particular routine.

I: Was there any discomfort in using the original entrance that led to developing this routine?

P: Not necessarily, it was mainly the timing of leaving or coming to the house. Sometimes my in-laws would be sleeping or having guests, so it would be disturbing to invade their space just to access our apartment. So this routine made us almost forget that there is another entrance that leads to the same apartment. I don't feel that this upsets my in-laws, on the contrary, I think it helped both families preserve their sense of privacy and autonomy in the space. I went through using the same entrance when we didn't have our entrance during our first year of marriage, and it was awkward at some points for both of families, so I think there is a general sense of relief.

I: When was the original house built?

P: The compound was built on two stages, 3 villas in 2011 including the original one, and 2 more in 2016.

I: How did it transform with all of the changes?

P: Before, it used to be a two-story house with one entrance with a big living room downstairs and the services. The upper floor had the bedrooms and a hall. After the changes that are going to happen, it turned into two attached villas with two separate entries. An elevator was added as a secondary access that leads to the modified section (our current apartment). The expansion is meant to enlarge existing components rather than adding more rooms or spaces.

The most significant change is dividing the space as per the spatial needs of each family, which results in dedicating the larger half for our family to foster for its needs as it is currently expanding.

I: Does this expansion account for the growth of your family?

P: Ideally, I would have had a master bedroom and three bedrooms for the kids. My husband and I are planning to have three children, and I would have loved that each child has a bedroom. With the current arrangement, the option would be to have children share bedrooms in the future.

I: What about sharing with the original family, what do you share in addition to the actual structure?

P: Yes, we do have a shared lobby that overlaps within the two sections of the division located in the first floor. There is also the meal sharing arrangement, each villa chip in monthly and the help prepare meals for everyone using the cooking budget.

I: How did living in an extended family dwelling impacted your social life and your family?

P: I am going to share my point of view, but in the end, it all depends on the person. It can be very stressful to some people, like my brother in-law's wife is an introverted person by nature, this didn't help her adapt well with the shared living arrangement. However, I am a very sociable and outgoing person, and I enjoy family gatherings, so I am better adjusted to this environment. In her case, she preferred to move out for what she saw as limits, and I saw as opportunities. I do think it is subjective; however, it brings families together and reduces the intergenerational gaps. It is priceless to see my children around their grandparents and cousins. There are always events and gatherings that help the family members to bond and spend more time together. On the other hand, some aspects living with a big family doesn't offer you. Like the need for privacy and independence, especially when you have some guests over, and you're afraid that this

is going to cause a disturbance, so you need to give heads up for the other family members. In general, there is a need for a 'personal space' in my opinion. In addition, it is a bit hard to establish your "own" family routine and guidelines as you are limited by the fact that you are actually living with the in laws and hence have to adjust and sometime compromise your own guidelines and rules to thiers.

It is a double-sided situation, the advantages and disadvantages are almost equal which makes me have mixed feelings about it.

I: Your stance on the living arrangement is understandable, yet you mentioned earlier that you liked the fact that *your family members are your neighbors*. Would you have preferred to have remained in the compound with your villa rather than sharing the house with your in-laws?

P: I feel that my family would have more day-to-day privacy if we have our own villa. Living in the family house, as much as it provides company, but sometimes it compromises your comfort level and ability to zone out for a while. Sometimes you are not in the mood to socialize, or you need to rest, but you feel somehow obligated to socialize with the residents of the household to avoid tension. Regarding child rearing, being in a shared home compromises my control in parenting. I cannot control my child from moving around the house unless I lock the doors for example.

However, I appreciate the convenience in meal sharing and leaving my children with their grandparents when I am at work or outside. It is a massive advantage for a working mother like myself.

I: Based on your experience in living with the extended family, how would you describe your comfort and convenience level on a scale 1-10?

P: I would say 6-7. I would also say this is subjective, I am lucky to be within a nurturing and kind family that count me as one of their own, others may not have the same experience and would give a lower score because of that. It's more about the people than the space itself.

I: Do you think this living arrangement would continue for next generations in Bahrain? Or it will be replaced with other living trends?

P: I think that in Bahrain, giving the financial capabilities of the people, shared living is going to be around for the next generation. However, I would encourage young couples to start their lives in the extended family house to have a solid ground for their families. When the kids grow up, I am sure the new needs and lifestyle will lead the family to choose another living arrangement that grants them more independence and autonomy.

I: Does this pressure you to provide for your children's future dwelling?

P: Yes. I may not sufficiently provide, but I would definitely contribute. It is partially the lack of government support that made it an obligation for us as parents to think of allocating space for our children's future.

I: Do you have any final comments or recommendations?

P: I hope the municipality becomes more flexible and simplify the process of building permits to help people meet their needs efficiently, especially with permits for modifying existing structure. On another note, the ministry of housing and other concerned entities should be able to provide adequate financial support for all citizens regardless of their income level or status in society.

Appendix B: Interview with participant 2 Extended family house study

Venue: phone call
Date: November 8, 2017
Duration: 41 minutes
Method: recorded
Interviewed and transcribed by author

The interview was conducted via through a phone call as the participant is based in Bahrain. The participant's house was a one-story building until his father decided to build a set of two apartments for him and his brother in the second floor. The interview followed the order of the prepared questions, and the participant shared insightful experiences and recommendations.

Interviewer (I): Tell us about yourself and your background?

Participant (P): I am 27 years old, I hold an ICT degree, and I work in the IT field as a database analyst. My wife holds a business degree. She used to work but is currently unemployed. We have been living in an apartment on the second floor of my parents' house since last year. Our monthly income ranges between BD 500-1000 (\$ 1322-2644).

I: How did you put your housing plan and what were your options?

P: Honestly, this was the only option I had, living with my family. I did not have to worry about the dwelling options because my father took care of that 9-10 years ago. When the apartment was ready, I started living there alone but without any furniture, except for the bedroom. Therefore the idea of renting an apartment after getting married was not even on my mind. It is an option of course, but I saw that my apartment is a suitable solution for the next ten years of my life with my new family when I get married. When I had my first job, my income did not allow me to think of another option either.

I: How many family members live in the house at the moment?

P: 10 people in total.

I: Was this apartment planned for from the initial design phase of the original house?

P: The original house was built in 1989 as a one-story house. I was 17 and still in highschool when my father decided to make the second floor divided into two apartments, and they were complete in a year. So I moved up from my old room, and I stayed in it, furnishing the bedroom only, and this led me to change a lot of things when I got married 10 years later. I would say it wasn't planned to arrange the house in that way, but when the need was there, my father thought of this solution to keep his children closer and to help them start their lives.

I: Given that the apartment was built by your father when you were 17, what was your level of participation throughout the process?

P: As the commissioner of the project, he financed it and made all the decisions regarding the design. As per the design part, building on top of an existing structure has its limitations, to begin with, so there wasn't much to consult me for regarding space planning. I received a ready-to-use product where my input was more in the finishing material selection, and later in furniture and minor touches. I would have loved to be more involved, but back then I was too young and couldn't anticipate my future needs.

I: Did your father consult an architect and applied for a building permit to make the apartments?

P: I do not remember, but I believe that he did. I do not know much about building regulations, but there didn't seem any problem with the floor addition he did. It is true that the codes can be restrictive; however, I am sure they were put as safety measures to the residents and not to create obstacles in any way.

I: Did that make you change some of the spaces to accommodate your needs?

P: Not really. I only had to do some maintenance on the toilets, change the flooring and furnish the space. But this doesn't include any modification or space re-planning.

I: Is there a separate access to the apartment and how often do you use it?

P: Yes we have a separate access from the street level. The house is located on two streets, which allowed creating a comfortable secondary entrance. We use it 80% of the time, which granted us more privacy and independence.

I: Were there any issues in using the original entrance that led to developing this routine?

P: Not at all, it was planned to be this way for all families' privacy. By privacy, I mean freedom of movement and having control over the amount of information to share with the family members. For example, when I come with grocery bags they don't need to know what I am bringing to my apartment. Or when there are some guests over, reaching the apartment through the main entrance will create a disturbance for both parties. Another issue is timing. No one needs to know when I leave and arrive at the house. These are private things to be kept between the partners.

I should also mention that being in a conservative society where women are veiled, it is not appropriate to penetrate the space without permission, as they would need to cover before a man enters the area even if he just wants to pass through. Therefore the concept of separate entrances granted privacy for all residents according to their needs.

Privacy is not a bad thing to ask for; it doesn't mean isolation or full segregation, we still maintain our relationship through sharing a reasonable amount of information about our families.

I: Do you share any spaces or amenities with the original house?

P: We almost don't share spaces planning wise and usage wise. Our apartments are technically the second floor of the house which means we don't have a separate electricity meter. My father currently takes care of the bill, but there is a plan to separate the meters, which will be better for the electricity supply as well.

I: What is your daily social interaction level with the house residents?

P: In a regular day, I wake up early for work and come back late in the afternoon straight to my apartment to rest. I don't have a fixed timing, but at some point of the evening I go downstairs to sit with my family, and sometimes they come upstairs to sit with my wife and me for a while. In the weekends and other occasions, we have a family lunch for everyone in the house. But in general, we see each other every day.

When I got married and settled in the apartment with my wife, I gained a status of autonomy that made me distance myself from the everyday life of my family members. However, this new formal nature of the relationship is better than what could have been if I would be living outside the family house.

I: Can you elaborate on the formal nature of the relationship and how was it affected by the spatial arrangement?

P: Naturally, I spend less time with my original family even if I see them every day, which created a healthy distance between us. This is what I meant by a formal relationship with them. It has to do with the sense of independence and the mutual respect to my new life and the decisions I make with my partner, even if I am in the same house. The relationship witnessed a shift in who has access and who is involved in the decision making. In the past, I may not have had a say in what dish was prepared for dinner for example because I was part of a group, but now I have more control over that in my space. Being considered a 'household' within the big house legitimizes my vote in major decisions concerning the extended family, which is no longer outweighed by the family patriarch. I feel that I have more participation now.

I: How did living in an extended family dwelling impacted your social life and your family?

P: I feel that this experience has positively impacted my life. I appreciate the social life aspect of it, in addition to the security and safety aspects. I can rest assured if I am not at home because there are people I trust in there that will be ready for any emergency. For example, if I needed to get a task done at the apartment while I am away, I can call any family member and have him/ her do it for me. The separation is only at my location within the house. I am still a present contributing member socially and financially, which is excellent.

I: Based on your experience in living with the extended family, how would you describe your comfort and convenience level on a scale 1-10?

P: I would say 9.5

I: What is your long term housing plan, and would it compromise the 9.5?

P: I go by the saying "hope for the best, plan for the worst." With my current financial situation, I cannot realistically think of moving out in an independent house. However, when I have the means, I will be planning to move out preferably in a location close to my family's home. This is almost impossible given the land scarcity and how tight my area is. So living far from my family will compromise the comfort level for sure, but in exchange for that, I will have the space I need for my children in the future. Living in an apartment with children is very challenging, you are limited in the area in every way.

When my brother had his daughter, he was able to utilize the limited space and created a small bedroom for her for the time being.

I: Speaking of limitations and opportunities, what are the main advantages and challenges of living in an extended family house?

P: Before I do that I need to highlight something. This living arrangement is sometimes the only option for many young couples, either because they are socially obligated or financially incapable of anything else. The advantages mainly pertain security, safety, social life and the rewarding sense of participation. The challenges are usually related to space, primarily not being able to provide a separate access that has implications on privacy and therefore restricts the freedom of movement, and consequently the level of comfort. On a larger scale, building on top of an existing villa is limiting in space and alterations, mainly when there were no provisions in the initial planning and design of the original house. It also leads to creating denser neighborhoods that affect the car circulation and parking, which is why I think some people choose to rent

instead of building in some cases. In all cases, this is a temporary solution, and one needs to plan wisely for the future.

I: Do you encourage people to live in such arrangement?

P: I encourage that with conditions. If the dwelling is adequate in space, it would be a good investment rather than renting a unit that will never be one's own. If the couple moves out, it could be passed to the next young couple in the family, which will help them in starting their life. And in other scenarios it could be rented and generate income for the original family.

I: Do you have any final comments or recommendations?

P: With our current economy in Bahrain, it is very challenging for young adults who want to start families to provide an independent dwelling within the first ten years of their career. My advice to those building their houses in this time and age, to allocate space for their children, and invest in a solid foundation and structure that support expansion. I would do that myself if I planned my house. On another note, I hope that building regulations become less restrictive and help people with limited means instead of creating obstacles. I think it is also a good idea if the ministry of housing collaborated with the municipality and created a program to fund house extensions since living with the families is more popular than their current social housing services.

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Appendix C: Interview with participant 3 Extended family house study

Venue: phone call
Date: November 10, 2017
Duration: 37:32 minutes
Method: recorded
Interviewed and transcribed by author

The interview was conducted through a phone call as the participant is based in Bahrain. The participant is married to her cousin and lives in an apartment in his family house. It is a household very familiar to her, yet privacy rules apply to the veil and social conduct. The house was built in the mid-1990s, it is two and a half stories; their apartment is half of the third floor that was once built as a service quarter. The interview followed the order of the prepared questions, and the participant shared her insight in how little design interventions to the interior can enhance the living experience.

Interviewer (I): Tell us about yourself and your background?

Participant (P): I am 25 years old, and I graduated in 2014 with a degree in civil engineering in University of Bahrain. I work as a construction engineer in the sanitary engineering department, ministry of works. My husband is also a civil engineer. He is a project manager for a private foundations company. Something you need to know about me is that I am married to my cousin, which means I live in a familiar setting as he is the son of my paternal aunt. Our monthly income is approximately BD 1500 (\$ 3978).

I: How did you put your housing plan and what were your options?

P: Our options were either to buy an apartment or to live with my in-laws. The dwelling was somewhat ready in my in-law's house; it was an uninhabited part of the third floor that was built a long time ago. It is comprised of a bedroom and a living hall. Looking at the first option, we couldn't find a suitable apartment within our budget. We wanted a spacious apartment, considering the investment we will do in a space that will be home for the next 15 years. Even though we have been living here for two years, it is still temporary to us. If god-willing we found an apartment that was suitable, hopefully soon, we will buy it and move out. So we decided to live here temporarily while on the hunt for a permanent place. The primary incentive to us was financial; it is better to live with family than to pay rent somewhere else. We didn't have a social motivation per se.

I: Is an owned apartment a long-term housing plan of yours?

P: We have a plan to save some money and build our house within the coming 10-15 years. One always hopes to the best, the house provides more privacy than an apartment. However, when I say that the apartment is a temporary solution I see us as a young couple, even if we had one child at this time, we are still a family of three that doesn't need much space. Theoretically, we can get a loan and squeeze our budget to build a house, but we are going to create an ample space and pay for things that won't be in use for the short term. We are still at the beginning of our lives, why should we add financial strains to ourselves? A house is too big for us at the moment, and it will cost us half of our salaries for something that we don't necessarily need now.

I: Was your current apartment planned for from the initial design phase of the original house?

P: The original house is three stories; the two stories remained as they are. The first floor has two open halls, an open dining space, an indoor and outdoor kitchen, a small room and a guest bathroom. The second floor has three rooms, two of them are master bedrooms, in addition to a small study room, a little hall and a shared bathroom.

I think the third floor was built as a service quarter for the house, either an office or a maid's room, I am not sure, but it was a part of the house. When we decided to live here, we added a gypsum wall right after the landing of the stairway and created a door that defined the space as an independent apartment. It is now comprised of a 320 sqft hall, a 215 sqft master bedroom, a spacious bathroom inside the bedroom in which I created a laundry corner. I love decoration a lot, and I did some changes to the existing space, especially the hall. There used to be a TV on the shorter wall that made the hall look long and narrow. I changed the location of the TV to the more extended wall, put a set of sofas facing it, and used one of the shorter walls as a kitchenette and the other one as a study. This is sufficient for us, so far, concerning space and storage.

I: How many people live in the house?

P: 6.

I: How did you finance your current dwelling?

P: We saved up and did everything on our own. We didn't receive financial help from anyone.

I: Did that make you change some of the spaces to accommodate your needs?

P: We only added the gypsum wall to separate the apartment from the rest of the house, and we added the kitchenette which required some electrical wiring and plumbing. That in addition to the redecoration we did were about it, we didn't do any construction work. My kitchen doesn't have an oven, but I have some appliances for light cooking.

I: Does that make you share spaces with the original family?

P: I usually don't cook, and if I do, it would be a light dinner that could be prepared from my kitchen. We have lunch with my in-laws every day if that counts, but we don't actively use spaces from the original house. Regarding the car parking, the house has a garage that fits two cars, and other family members park their cars by the boundary wall, including me.

I: Is street parking convenient?

P: Yes, we didn't have any problems in the neighborhood. There are wall mounted umbrellas that provide shade and demarcate the parking spots for our cars. All of our neighbors now that these are our parking spots.

I: Is there a separate access to the apartment and how often do you use it?

P: No, we only have the central staircase of the house. I don't have a big issue with using it as an entrance; however, I don't feel that I have privacy using it because of its location which is uncomfortable sometimes. I prefer if it was in a different position, outside for example, but this doesn't bother me because in the end this is my aunt's house and I grew up knowing these people. I am a veiled woman, and I need to cover if I go outside of my apartment because I have two cousins who I need to cover from. I also need privacy in certain times like when I am back from a wedding or when I carry grocery bags to go up two floors, and I do these things in front of the residents which makes me feel uncomfortable. But since this is a temporary situation we are willing to endure it.

I: What does privacy mean to you?

P: To me, it is the ability to move in space without being seen by anyone who might wonder what the other person is doing and why. But I am relieved that I never experienced that kind of wondering or curiosity. To me, privacy in a dwelling could be achieved merely by proper planning. It doesn't necessarily mean that the couple has to be entirely isolated or live in a different location to have privacy.

I: What is your daily social interaction level with the house residents?

P: As I mentioned I see them every day over lunch, my mother in law cooks for all of us as my husband comes back from work. Sometimes when he stays late at work, I don't go for lunch, and I take a nap in my apartment instead. I casually see some of them when I am leaving or arriving at the apartment. I don't feel forced to sit with them when I am back from work, I just say a quick hello and go up until lunchtime.

I: How did living in an extended family dwelling impacted your social life and your family?

P: I am a sociable person, and sometimes living in a family house limits my ability and convenience to invite guests. I rarely have guests that are not family, because my space is small and the entrance is from the main house. When I have guests, I prefer to have them in my parents' house because I can use the space freely there. I don't find that living in a family house negatively affected my social life, but I do think that if I had an independent dwelling, I would build relationships with my neighbors, unlike now. My contacts and social network depend on me as a person, not my location.

I: Based on your experience in living with the extended family, how would you describe your comfort and convenience level on a scale 1-10?

P: 5. If we could enlarge the space, I would give it a higher score. We have half of the floor that could be part of our current apartment, but since this situation is temporary, I don't see a reason to spend money on such extension.

I: From your experience, what are the main advantages and challenges of living in an extended family house?

P: Overall I think living with the family is an opportunity for 'silat ar-Rahm,' so the person can take care of his/her family and be close to them for any help they need. Another advantage is the financial benefit, not paying rent allows the couple to save for their long-term solution. The disadvantages in my case are the small space which could be sufficient for three years maximum, in addition to the privacy concern, given the central location of the staircase.

I: Do you encourage people to live in such arrangement?

P: I encourage couples to do that at the beginning of their married life, for a specific period. They should give it a lot of thought and put a plan and a timeline to realize it. But if they had the chance to be in an independent house, if they can afford that, I encourage them to move out and be independent to be entirely responsible adults. In our case, we are responsible and independent, but the meal sharing aspect doesn't push me to cook for example. I don't have kids now, but when I do I prefer to have my independent space, it would be uncomfortable if the child started crying, or the storage space for his stuff. I prefer to have children when I move to a new place, but this is not a condition, just a preference.

I: When you plan your future house, what are the things you will consider in the design?

P: We will, and must, allocate space for our children's future families. We don't know what the future holds, so we better be prepared. For example, we would leave enough space for an external

staircase or an elevator, and invest in solid foundations. We don't have to have a big house, but it is important to exploit every corner and have a flexible design that will save us money and future alterations.

I: Do you have any final comments or recommendations?

P: We didn't go through the building permit application process, but I heard it is a very tedious one and many people struggle with building the floor or apartment addition. If that or the zoning prevents people from having a separate entrance, it compromises the needs of people. Also from what I have seen, the ministry of housing projects- the social housing apartments - are affordable but very few and small in size. I think the municipality and similar entities should understand the needs of the citizens and be flexible, especially with the high cost of living, not to mention properties. I also think it is the consultant offices' responsibility to make clients aware of their choices and design decisions, like preparing the household for their older age or their children's families for example so they can minimize the alterations when it is time.

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Appendix D: Interview with participant 4 Extended family house study

Venue: phone call
Date: November 10, 2017
Duration: 44 minutes
Method: recorded
Interviewed and transcribed by author

The interview was conducted through a phone call as the participant is based in Bahrain. The participant lived in an apartment in her in-laws family house for four years and moved out to an independent household three years ago. Her experience presents a comparison between a shared dwelling and an independent one. The interview went beyond the prepared questions, as the participant's previous experience shaped the current house and planning for future needs.

Interviewer (I): Tell us about yourself and your background?

Participant (P): I studied tourism at the University of Bahrain and graduated with a high GPA, and worked briefly as a travel agent. Then I got an MBA degree and started working in a bank where I still am. My husband has a high school diploma, and he is a businessman. I have two kids, a boy, and a girl, and I am pregnant with our third baby. Our monthly income is approximately BD 1500 (\$ 3978).

I: How did you put your housing plan and what were your options?

P: I married my husband in a traditional arranged marriage setting. When we first knew each other, he told me that he owns a piece of land to build a house immediately after marriage. As a temporary solution, his late father made an apartment on top of the family house in 2006. It sounded like a plan, and I agreed to live in that arrangement. I thought that since we are a couple, an apartment would be enough temporarily, and it is better than paying rent and wasting the budget of our future home.

When we got engaged, I was shocked that some of his family members were using parts of the apartment. This invasion of privacy took me off guard, but I decided to live with this reality since it was temporary and the plan of building the house was going forward. So instead of an apartment, I was living in a room, which was very inconvenient, but I was patient. If I were younger, I would have gotten a divorce probably, but I got engaged when I was 29, so I was rational with my decisions.

I: How was your living experience in the arrangement you described?

P: In any marriage, the beginning is full of challenges given that it is a union between two people who were raised differently in different environments and backgrounds. My family valued education and good morals, and always encouraged us to be excellent students. However, in my husband's family, the parents didn't have much control over their children. My mother-in-law is a kind person and always tries to please her daughters-in-law, but my sisters' in-law were more controlling and authoritative. The atmosphere was often tense and charged which put my husband on the spot in some situations, and there were some issues related to the household budget since it was his responsibility. The sisters perceived me as the person who stole their brother. There was a lot of jealousy and no respect for privacy. I didn't move my personal belongings from my parents' house to the apartment, it was a temporary place to me, and it wasn't mine in any way.

After two years of living together, I started to understand their mannerisms and started to treat them with kindness; it also came from my respect to my husband's desire of staying close to his family. This replaced all of the negativity in our relationship with love and kindness, they took me in as a sister and did me endless favors. They gained my trust, and I was able to depend on them in emergencies, especially when I had my first child in the same period. When I left the apartment to my new house, I was very emotional. They were a big part of my life, and I discovered that living with a family is a priceless experience, given that the person has to be flexible and give makes a few compromises in the beginning.

I: How was the apartment planned?

P: It had two entrances; an external and an internal one. It was a two-bed apartment, with a hall and a kitchen and two bathrooms. The family house wasn't bad as well; it had a big hall, an indoor and outdoor kitchen, and plenty of empty rooms. It is a social housing unit, and they lived there since 1985.

I: How was it financed?

P: He had some financial help from his late father, and built it in 2006, four years before we got married.

I: How is your relationship with your in-laws now that you live in your own house?

P: Our house is still in the same area close to my in-law's house. Until this day they babysit my children and take care of them when I need help. We were able to maintain a good relationship based on mutual love and respect.

I: Can you describe your current house and the design considerations you made based on your experience?

P: I now live in a three-story house. The first floor contains two rooms, two open halls, and a kitchen. The second floor includes four bedrooms with their bathrooms, and the third floor is half-built as a service quarter for the maid and laundry.

I moved in as soon as the construction completed and furnished it slowly and steadily. I couldn't wait to have my own space. I am a very sociable person, but when I was with my in-laws, I didn't have any visitors or guests because it wasn't my place. Now that I have my own house, I made sure I have big halls to host people.

Looking back, I grew up with the independent living concept that my parents instilled in me. My understanding of adulthood and independence is that one lives in his own place after marriage and not share it with other people; that is what I intend to pass to my children. I don't want them to live with me in the house when they get married; I want them to learn how to be responsible and independent.

With my siblings, I have two brothers who built apartments in my parents' house, but they were independent with their separate entries. They lived as if they were not on the same location, and this was appreciated and encouraged by my parents.

I: How about your family's future needs?

P: As I said, I don't prefer to have my children to share the house with me after they get married. I would do my best to save some money and help them financially to make their independent homes. But if things got tough, I will move downstairs and give each a floor with a separate entrance where they can live with privacy and freedom, until they can move out to a house.

It is wrong to spoil children and give them everything. They need to make it in life and build their own way, starting from their place of living. If they had everything, they would turn into failing adults who depend on their parents and never leave the nest.

I honestly criticize some friends who built apartments as part of the house, and their children are not even adults yet. Why do that and deprive themselves of space and comfort for 20 years at least?

I: Based on your experience in living with the extended family, how would you describe your comfort and convenience level between now and then, on a scale 1-10?

P: Now it is a solid 10. Before, I would say 3 if not less.

I: From your experience, what are the main advantages and challenges of living in an extended family house?

P: Of course, the advantage is having people to count on when you need help, and as a temporary solution, it is an excellent way to save money.

The disadvantages are many, starting with family interference in child rearing, especially grandmothers, they spoil their grandchildren and it disturbs the rules and guidelines one puts for a child. Another thing is privacy, and I wasn't free to wear what I want, I had to be modest and cover except when I am in my bedroom. Crowdedness is a big deal too, from the household level to the parking issue in the neighborhood. We have a severe car ownership ratio problem.

I: Do you encourage people to live in such arrangement?

P: I am pro early independent living, but I know it is hard for most people. If this was their only option, I highly recommend having a separate space with minimum friction with the original family. It is essential to have a healthy distance and learn to be independent. Even meal sharing should be to the minimum or with significant contribution from the young couple, so they learn to be responsible and participatory, not dependent and scrounging. Being independent is a precondition for privacy, and privacy means protecting the family's secrets and contain any problems before they become a subject of gossip and public opinion.

I: Do you have any final comments or recommendations?

P: I would advise young couples to make sure they explore all of their dwelling options and do what works best for them because every case has its unique conditions. I also say to them that it is ok to squeeze your budget and save for a house of your own. Our parents' generation were more responsible and made wise choices for housing; they didn't live a materialistic life like the younger generations.

Let's be honest. With our deteriorating economy, it is not the state's whole responsibility to provide housing for all citizens. Therefore, each citizen has to pull himself up by the bootstraps and create his housing solution and stop comparing themselves to others with different means. I find the social housing projects by the ministry of housing are efficient, even if they were smaller than what is hoped for. It is not wrong to start with baby steps.

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Appendix E: Interview with participant 5 Extended family house study

Venue: phone call
Date: November 10, 2017
Duration: 37:50 minutes
Method: recorded
Interviewed and transcribed by author

The interview was conducted through a phone call as the participant is based in Bahrain. The participant lives in an apartment in his in-laws family house. The house was built in the early 2000s as a two-story villa, with the second floor planned to divide into two apartments through a minimal intervention. Before it was converted to apartments, the second floor of the house used to be the original family's bedrooms suite. The interview followed the order of the prepared questions, and the participant answers mostly reflected family dynamics and masculine privacy that profoundly influenced the living arrangement.

Interviewer (I): Tell us about yourself and your background?

Participant (P): I am an inspection engineer for a petrochemical company. I graduated with a mechanical engineering degree from the University of Bahrain, and I hold a master's degree in engineering management from George Washington University. My wife is an environmental engineer in the national petroleum company. We recently had a baby girl. Our monthly income is approximately BD 1000 - 1700 (\$ 2650-4500).

I: How did you put your housing plan and what were your options?

P: The plan was to stay either with my family or my wife's, we thought it through and settled on my wife's family house. For two people, the space available in both households was enough, and we started comparing cost and planning for both options. We found that the amount of modification in her family house is smaller than the other one, and it was more feasible to do it that way. Socially, in both cases, we would stay close to our families, but the preference to live here makes my wife more comfortable so that she can stay close to her mother and offer help whenever needed.

I: What is your long-term housing plan?

P: We think that this apartment is sufficient for the next ten years, and then we will revisit our options. We might purchase a bigger apartment or a house, it depends. We have a piece of land, but we haven't decided yet whether we're going to build it or invest in it. Being a young couple with a small baby, I think our apartment is enough and comfortable for the three of us; there is no need to go to a larger space and bare unnecessary costs. Staying here for the next ten years is driven by financial and social incentives for sure.

I: Can you describe the spaces in your apartment?

P: The apartment has two entrances, a separate access one from the outside of the main house, and another one connected from the inside. When you enter from the separate access, you will find a living hall open to a small kitchenette, a small room, a bathroom and the master bedroom.

I: Which entrance do you prefer using and why?

P: I use the external one, of course, I rarely use the internal access, only when I have to. I find that the external entrance provides independence. I can't immediately go inside the house, they need to cover, and I need to excuse myself before entering, so using this entrance provides everyone with the needed privacy. On the other hand, my wife uses both entries equally.

I: How did you finance your current dwelling?

P: We provided our funds from savings, nothing from governmental or bank sources.

I: Was the apartment planned previously or you did some changes to accommodate your needs?

P: The house is a two-story home, built in 2000, and they had a plan of dividing the second floor two apartments one day. The design was put to have a minimal intervention, a wall in the middle to distribute the floor to two apartments while using the old rooms or to repurpose them. So what we did was that we built the external door, the separate entrance, and we extended over the setback to make the kitchenette. We closed off the original door of the bedroom and separated the existing hall with a wall which created this small room. The master bedroom was already there, along with its bathroom. We also changed the flooring, painted the walls, and of course bought some furniture.

I: How about your family's future needs?

P: We still have space in the house that would allow us to expand a little bit, that would be our first option. The second option is to find another bigger apartment and move out.

I: Did you consult an architect for these changes?

P: We did, to make sure we built the staircase and dividing wall in alignment with the primary structure of the house. However, we didn't need to apply for a building permit or let's say we didn't want to get through the hassle of one because everything seemed to be doable.

I: Do you share any spaces with the original house?

P: Yes, namely the *majlis*¹¹⁸ when I have my friends over, in addition to some of the front yard spaces sometimes. I use the *majlis* once a month, it used to have an external entrance but they recently removed it, so it doesn't have privacy now as it used to. I liked it better before.

I: What is your daily social interaction level with the house residents?

P: I see them four times during the week, usually by coincidence when we are leaving or returning to the apartment.

I: How did living in an extended family dwelling impacted your social life and your family?

P: With my own family, I think it affected the level of closeness, given that I used to see them every day and now it is down to twice a week unless I go out with one of my brothers. Sometimes I am the last one to hear their family news. I am not updated and involved as before. I think even if we stayed with them, I would have better connectedness but I would still be independent and a little less involved.

I: Based on your experience in living with the extended family, how would you describe your comfort and convenience level on a scale 1-10?

P: 8.

¹¹⁸ Arabic term *Majlis* which means a private place where guests, usually male, are received and entertained.

I: From your experience, what are the main advantages and challenges of living in an extended family house?

P: The primary advantage is that we have our independent dwelling; secondly, my wife is closer to her family, and she is more comfortable this way, especially the support with the baby. I also don't have to worry about her when I am outside or late at work. She will be with her family and not bored until I'm back. The only disadvantages of this arrangement are that space is limited, it will get crowded in the future, and privacy level is not at its highest.

I: How about parking, do you have a problem with finding a spot?

P: In general, the neighborhood is getting crowded, but everyone knows where their parking spot is. I never faced a problem with my parking spot.

I: Do you encourage people to live in such arrangement?

P: If space could be easily repurposed as an apartment and had pre-existing rooms like our situation, I encourage them to live in the same arrangement. However, if they are going to build an apartment from scratch, I don't recommend that because it will cost them a lot for a temporary solution. It is better to invest their money in a long-term solution. In general, the experience of living with the family is a positive one, carried by solidarity, bonding, support, and sharing. It is nice to be closer to family, the advantages outweigh the disadvantages, which makes the experience worth living. In the end, it depends on the relationship between the family members and the spouse before marriage. If they find it is hard to co-exist from the beginning, it is better to move out in an independent dwelling.

I: When you plan your future house, what are the things you will consider in the design?

P: Given the limited criteria of the ministry of housing, and how difficult it is for the applicant to benefit from them, housing now is a responsibility carried by the citizen. Therefore, when I decide to build my house I must allocate space for my future children's families, I never know how the housing situation will look when they grow up. That being said, I think the co-residence with the family will continue in the future.

I: Do you have any final comments or recommendations?

P: Regarding the ministry of housing services, we tried to benefit from them when we were planning our living arrangement, but we didn't qualify because our combined income was higher than the limit. I advise young couples to try to benefit from these services as soon as possible while they are still eligible, especially with the restraining criteria the ministry has. We also avoided applying for a building permit from the municipality because they would have put obstacles in our way. Therefore it is necessary for these entities to revisit their regulations and criteria, and put the citizen's interest first.

* * *

Appendix F: Letter from a local Bahraini consultant answering inquiry about costs of design and construction of single family villas



Ref. No.:UV/FAM/17-0202
Date: December 7, 2017

Dear Ghadeer,

Regarding your questions on average cost for construction and design of single family villas in Bahrain for the purpose of your research on single family house extensions, we provided the figures below as per our usual practice. Please note that prices vary depending on prices of land in different areas and the client's desire of quality and final finishing material.

Villa construction

1. Black finish in the Bahraini housing market is a term to indicate the bricks and cement stage of the construction, which includes: bricks, concreting, plaster, no finishing materials.
2. Turn key finish is giving the client a ready-to move in product, which is a black finish in addition to doors and windows, finishing materials (flooring, paint, electrical installations, sanitary installations..etc).

Client's budget	Black finish (BD/m ²)	Turn key finish (BD/m ²)
Average	100	180
High	140	250

Design and supervision fees

We follow the standard Bahraini design and supervision fees, which are:

Design fees: 2% - 2.5% of building cost (considering the Architectural Style and characteristics)

Supervision fees: 2.5 % - 3.5% of building cost (depending on finishing item standard)

Land prices

For the average budgeted clients, which are a significant percentage of our office's clients, the land size is 180-300 m², and these lands cost about 180-250 BD/ m².

Land parcels that exceed 350 m² are typically bought and developed by upper middle-class clients who can afford building and maintaining such houses.

Thank you for your inquiry and we hope these figures answer your questions.

Sincerely,

Faeq Al Mandeel
Founder/Managing Director



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